THE

SOUTHERN AGRICULTURIST.

MAY, 1838.

PART I.

EDITORIAL AND ORIGINAL.

Proceedings of the Monticello Planters Society of Fairfield District, South-Carolina.

[Continued from our last Number.]

Report of the Committee on Barley.

Your committee are aware of but the one species of the barley plant ever having obtained in this tract of country; and this we take to be the *Hordeum Zeocriton*—the bearded or rice barley. In sowing the grain, one bushel or one bushel and a quarter of seed per acre, we deem amply sufficient: and to cultivate it with success, it should be sowed on lands that are heavy, highly fertilized, and as preferable, having a clay foundation—whence the yield will be twenty-five or thirty bushels per acre. Requiring such fertility of soil, is it an impoverishing crop? Your committee would ask in turn, if the same query might not with perhaps equal propriety be propounded of wheat and other grains, which are far more extensively cultivated. Be this as it may, your committee will show in the sequel, that granting the position, *the difficulty is overbalanced by the advantages attending its culture.* Of its value, your committee would beg leave to quote the language of a planter, (and a member of your Society*) who has attended closely to the culture of this grain for upwards of twenty years. He says, "In this

* Jonathan Davis.

climate, its worth is inconceivable, as a green food for horses and cattle: when in its green state, all stock are extremely fond of it. Before the grain had matured, I have turned my horses upon it, and frequently given them, when stabled, as much of it as they could eat; and yet never knew any inconvenience to result from this free use of the grain. I have never observed a cholic, or any such complaint, to affect stock when feeding on unripe barley. Whilst green, as wholesome as any dry food, it certainly is much superior in this point of view to green oats, wheat or rye. To have two crops annually from the same sowing, you should cut the first crop when the head has just passed *the boot*. It generally *boots* about the first of May; but if the spring be forward, it is *full-headed* by that time. If you do not design your barley for pasture, and wish to make a large grain, sow about the first of October; when you sow it forward, it stools out, and the heads are not apt to be *full*. Never a high growing grain, it stools out rapidly and grows thick—sow it later than the first of October, and it will not do well."

Your committee having embodied the above quoted experience of years, and having already characterized the soil best adapted to the growth of barley, would now suggest that, in cultivating for the purposes to which it is usually applied, the grain be sowed early in the fall—say September. Sowed at this time, (in September) it stools very thick from the grain, and affords a very thick stand of luxuriant green food; besides it may thus be cut green *twice* in the spring from the same root. This grain runs to head sooner in the spring than rye, or even May wheat; and therefore may be cut and used *before any other grain is ready for the scythe:* and to this fact, your committee would press your attention.

When the grain is sowed *in the winter*, it will not grow high enough to merit a reaping, unless the soil be improved to an extraordinary degree: and we do not hesitate to condemn the practice of all who may sow it at such a season of the year.

How far a grain, containing nine hundred and twenty parts of nutritive matter, as barley does, might be applied to table purposes, or in any way whatever for man's individual or personal benefit, your committee are not prepared to say; though they regret to record what would seem an imperative, yet unwise decision, when they state

the fact, that at this time the annual yield of the grain in the United States, is not the twentieth of that of oats or rye.

Your committee, in conclusion, would observe, that in their opinion, the barley plant should be more generally cultivated. They would respectfully recommend the members of this Society each to make the experiment for himself—and would urge you as a body to weigh its bearing on agricultural interests.

All which is submitted.

ROBERT HAWTHORN, *Chairman Com'tee.*

March 7th, 1838.

Report of the Committee on Horses.

The Committee on Horses, apprised of the importance of their province, have duly considered the same, and beg leave to report:

That they find so much uncertainty in the history of the horse, as to his native country; and even in records of the same age, and referring to the same country and circumstances, such confliction, as reluctantly to dispose us for the presentation of any observations *not immediately* within our own research.

Similar references are, however, to be observed, since 1650 years before Christ, in all the temperate and most of the sultry and Northern regions, alike differing in size, form, color, and durability. Indeed, your committee consider the existing presentation of the different breeds in America, as but little differing from the more and most ancient contrasts of the old world: having in this observation, the relative effects of climate, of feeding, and of the intermingling, thus changed from the peculiarities of their primitive state.

The difference of horses, so far as size is referred to in their history, from all the facts we can gather, is more to be ascribed to the vegetable luxuriance of the soil; or, if domesticated, to the care and attention in feeding, than to any thing else. Your committee have abundant history in confirmation of the fact, that the very smallest wild horses, by good attention and high feeding, (after the auxiliary developments of two generations,) have originated

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horses of the most extraordinary sizes.—(See p. 47, Hist. of the Horse; also, Louisiana Cattle.)

Relative to the form of the horse, we find our every-day observation verified by all authority, "that with discretion as to purpose, whether it be for the dray, carriage, or turf, we can ultimately generate any form or shape desired. For these particulars, however, the fact is not to be disregarded, that there has been such skill and attention observed, in England, for the last two centuries, that they have secured, for perpetuation, the proper shape and blood for each and every respective purpose. On the contrary, in America, there has been so little attention—so many occupations and destinations for the same horse, with no respective purpose in the rearing—that it is a chance, whether our product is a race-horse, a dray-horse, a saddle-horse, or fit for either; and hence such discrepancies in the criteria of our judgments, and the consequent fluctuation of taste, unfortunately affecting their *intrinsic* as well as *ideal* value.

Your committee, impressed with the novelty and consequent responsibility of the query,—whether color, is an essential consideration in appreciating the value of horses,—assigned us at the last meeting, have investigated the subject, and without hesitancy, report that much deference should be had to their color, and that (not without exception) it is a good index of his constitution, hardihood, and exemption from disease.

In making this report, we are well assured that, however *decisive* the evidences that have occurred may be to ourselves, aided by the *broad and unqualified confirmation of the fact*, by all judges, we are at some hesitancy in entering into detail.

Reviewing all the references pertinent to the subject, we find, the color of men and animals has been repeatedly regarded as pourtraying their respective constitutions; but *why* or *how* it is so, seems to have been most generally ascribed to the organization of Providence.

Buffon assumes to account for it thus—that the primitive color of all animals, as well as man, was originally white, and that it can be and has been varied by climate, feeding and habit, to yellow, brown or black; that these colors may, under certain circumstances, return to the primitive color, but so much altered, that it has no resemblance to the original whiteness, because it has been adul-

terated by the causes that have been assigned. Nature, he tells us, in her most perfect exertions, made man white; and this same nature, after suffering every possible change, still renders them white.

You will indulge your committee, in recurring to analogy for the explanation of the phenomena of nature, where it is relevant to their subject, and in embracing the privilege, we would present the sustaining circumstances for Buffon's notion, in the history of the negro. We have no hesitation in saying, that to *some* extent, a hot climate alone has the tendency of deepening the colors, habituated to a Northern region, and *vice versa;* that in each extremity of latitude, there is a perceptible difference of constitution, and a consequent modification either by approximation of latitude, or directly propagating from the extremes.

The heavier and more fatiguing exercises of a hot climate must, in consonance with nature, develope a shape and mold of muscle, not essential in the colder regions; and the sun will alike darken the hair and skin, associated with a fineness and shortness, that would illy adapt the horse to the penetrating coldness of the North: it is here to be remarked, that this fineness of the hair, accompanied with the development of muscle, originated or found to exist in hot climates, is one of our most prominent marks of a good and useful horse—in selecting from a cold region; and to the extent that an Arabian horse, in the colder regions, would perpetuate their peculiarities of hair and skin, accompanied by the development of muscle of his ancestry, would we rely upon the data.

The field of observation in this particular, however, is much obstructed from the fact, that in many of the Northern countries of America, they originated their stock from the best Arabian and English blood; which they have kept up, by additional crossing: in such instances, there is no certainty in speculating in this particular; for in strict accordance with Buffon's theory, they have most practically and additionally united all the benefit of proper feeding and exercise.

To present more fully our views, your committee would call your attention for a moment to the *texture of the skin.* It is composed of three parts; the cuticle, or outer skin; the cutesvera, and a substance interposed between these two, called the rete mucosrem: the two

former, in all climates and in all animals, being colorless, but the latter giving the color to the skin and hair, whatever that color may be.

An albino, known to us, as occurring only in the negro, though common among white people as well as all white animals, is entirely destitute of this rete mucosrem, or coloring matter. It is characterized by a pearly whiteness of the skin and hair, a redness of the eye, extreme tenderness and effeminacy, pain on exposure to the sun, and a liability to the diseases of debility. Occurring in all animals and in all climates, but far more common in some sections than others, and as an instance, which we wish particularly observed, (about Davis' straits) albino's are so common, that it has originated the conviction among Physiologists, that it is not the result of accident, but that the peculiarity can be procreated from father to son; and hence, as it is characterized by whiteness of the hair and skin, tenderness, and liability to diseases, in all animals, as well as man, any approximation to it, even if but a shade or two, must to that extent propagate this corresponding tenderness, &c. (to be measured thus by the extent of approximation.)

There are many diseases in the human subject, in which the peculiarities of complexion are indications of their predisposition; and the common exposures to which all men are liable, are sufficient incentives for the development thereof into disease. An instance (apropos to our subject) is that an individual, with a thin, transparent, smooth complexion, fair eyes and hair, soft and flacid flesh, has the external signs of a predisposition to scrofula; the fact is doubtless that this, and the poll-evil in horses, is the same disease, having the same ostensible diagnostics: as in farriery, we find the cream colored horses, *with light skins*, more repeatedly the subject of poll-evil—alike the consequence of weakness; and a similar analogy is verified in a disease of cattle. Hence in this manifest analogy of disease, the consequence of weakness or effeminacy, characterized by lightness of complexion, is inferable, and alike augurs a corresponding *tenderness* in all other particulars.

The color of hair is sometimes different from that of the skin, as we have seen cream colored horses *with black skins;* and invariably good horses. We have also seen horses with four white feet, and a bald face—of which

almost every farriery "advises you to guard against," have black skins, and good horses, though generally it is a mark of light colored skin.

As much credence is justly attached to long received information on the subject, we present, as confirmation of our position, a few extracts from History of the Horse, by Duff Green—page 284.

"Of the bays, there are many varieties, and they include the very best of our horses of every description.—"*Mark.*" *The light yellow bay*, although very beautiful, is the least valuable, because, *the lightness of his color seems to give him some tenderness of constitution.*

"The proper bay, *without any white*, (and black from the knees and hocks to the feet) is the most desirable of all colors, and has generally a good constitution. As we approach to the brown, we find in the bay brown not always so much show and action, but more strength and endurance; and could we find in him the same degree of blood, he would be as handsome and more valuable.

"Of the chesnuts, there are three varieties: the lightest red, or the sorrel, usually with white on the face or legs, is considered objectionable—many of them having no breeding at all, and the best bred are supposed to be somewhat deficient in endurance.

"The light chesnut, with less red, and a little deeper, is considered as a preferable horse, especially if he has no white about him, or only a small portion of it; yet even he is generally weak. The dark chesnut is as different a horse from the light chesnut, as can be easily imagined; possessed of great endurance, and with a constitution that rarely knows an ailment."

These extracts are emphatic; and your committee hope they have, at least, satisfied the Society, that a light color is not a recommendation, if not objectionable. They beg to be understood, as reporting this conviction, viz.—*The darker the color, the better the horse*, whatever that color may be.

All which is respectfully submitted.

JOHN M. ROBERTSON, *Chairman Com'tee.*

March 7th, 1838.

Report of the Committee on Sheep.

In Great Britain, the annual value of woollen manufactures is about $100,000,000; in France, the annual value is about $50,000,000, the one-sixth in worth of all her branches of manufacture; in Prussia, Netherlands, Belgium, Russia, Germany, the Ottoman Empire, and other countries of the old continent, the consumption of wool forms no small item in the factory. In the United States, the annual value of woollen manufactures is near $50,000,000, giving employment to probably fifty thousand of her population. The employment thus given, through the woollen manufacture, to the laboring classes of society—the parchment and carpenter's glue obtained from the skin of the sheep—and last, not least, boiled sheep's head, boiled or roast leg mutton, roast lamb and mutton cutlets—all set forth in strong relief, as your committee conceive, the vast utility of the animal whose peculiar merits or demerits they are called upon to expound.

It is not our province to discuss the shades of difference between the sheep, in its wild and domesticated state: nor would it be more appropriate to assume the office of the naturalist, and inquire whether the sheep be a genus consisting of one or more species. Still more ludicrous would it be to revert to the pastoral life of the Patriarchs, and speculate as to its effects upon society or government. In meeting, therefore, the practical ends of the society, your committee would first suggest that much depends on the choice made in selecting sheep *as breeders.* What is the best for our climate? The Merinos, the African sheep (so called), and a third variety of an inferior grade, are the breeds that have been brought into this section of country. The African sheep, distinguishable by its black feet and face, by its flat tail, and the superior texture, fineness and quantity of its wool, is incomparably more valuable in every respect, than either of the others. In making this bold assertion, our argument is to be found in the many experiments that have been made by members of this Society, and in this immediate neighborhood.

In choosing for the propagation and improvement of the sheep, care should be taken to have both the male and female, large, long-bodied, with a thick neck and

head, and otherwise of compact form. The wool-stapler, whose skill in this particular must necessarily surpass that of the mere planter, would also ascertain the quantum of yolk in the wool, and how far a deficiency therein might affect the general health of the sheep, and of course the quality of its wool.

In the long-wool'd and short-wool'd breeds, this general distinction should be observed; viz.: in the former, the one selecting should have an eye *to the length and regularity of the wool* over the body—but in the other, those selected should have *close, fine and thick* wool. Spotted sheep, or black sheep, are proverbially objectionable.

The ewes commonly lamb in February, or from the middle of January till March: to improve the stock, to raise them most abundantly, the males should be separated from the flock until the middle of August—so that the ewes might lamb in March and April. By adopting this plan for one year only, the difficulty is removed, and your ewes will lamb afterwards during these months. The policy of this suggestion, and under our climate, your committee trust will be acknowledged by the most careless observer. The species should never be increased under two years of age. Your committee would simply recommend, that in nursing the lambs, little else is essential than to house them in unfavorable weather. When the sheep are sheared, and great care has been taken, the average weight of the fleece is nine or ten pounds. Our habit is to shear in April: before the shears are applied, the sheep should be washed, and the fleece *unburred*. Pursuing a different course, has rendered our wool heretofore unfit for market, and decreased in quantity. For a more convenient way of shearing than is our wont, your committee would beg leave to refer you to the May number (1837) of the Farmer's Register, page 35.* To those acquainted with either our district or State, it would argue folly to remark, that we are necessarily stinted in pasture lands; and if a proper use has not been made of them, it would indicate a want of energy in our population, which your committee would be loath to confess.

How do sheep thrive best? On this subject we are of opinion (not altogether unfounded) that they are more

* The article is inserted among our selections this month.

thrifty in the woods than elsewhere, particularly through the winter: running at large, feeding on the moss and evergreens, they are healthier than when enclosed and bountifully fed. During snows or cold rains, they require to be put into the fold.

Of the diseases common to sheep in this State, the Rot and Staggers are the most fatal. The former, we apprehend, originates from too long confinement to one and the same pasture: to change the pasture, and salt frequently, is a very good remedy. Salt, in this part of the upper country, where lime forms so minute an ingredient of the soil, can never be administered too often to sheep, and in fact we might add to almost any other stock.

Several years since, it was maintained in an Agricultural Society, in New-York, that when the sheep is in a healthy condition, a white fluid is secreted from the fissure of the hoof—the termination of a duct with which the sheep's leg is supplied; and when the sheep is unhealthy, the fluid hardens, and the duct is stopped. One of the prominent members of that Society gave as the result of his *experiments*, the facts, that he had relieved the sheep, when diseased, by removing the hardened matter with his finger from the opening of the duct in the feet, and cleansing the passage (or orifice) with a hard brush steeped in warm water.

In one of the upper districts of South-Carolina, this cleansing of the secretion from the duct is superseded by the following practice. To use their language, they excise the sac, containing as they suppose, the secretion which, by frequent treading on the same pasture, generates the rot, from feeding, and hence (as we all know) sheep will not live *unless changed from pasture to pasture.* Your committee are not warranted from their experience in an endorsement of this theory; yet they will not give it as their opinion that it is infeasible.

Of the latter disease, the Staggers, your committee incline to think it owes its origin to the sheep being fed on corn, or any rich grain; and we would here remark for the benefit of those who may take interest enough to try the experiment, that no danger of the kind results where the sheep are fed on peas. To relieve the sheep, affected by the staggers, we would suggest a rowel or seton should be inserted in the jaw. Sometimes the cure is effected by bleeding—which may be done by cutting the ear every two hours until relief is had.

For most of the minor diseases incident to sheep, arising from unwholesome diet, the remedy suggests itself.

Your committee have been advised by different mem bers of your body, to suggest to you the propriety of petitioning the State Legislature to pass a law, levying a tax for every dog on a settled residence. In England, where it is computed there are 30,000,000 of sheep, this law exists—they hold "every man responsible for the mischief done by his dog." To the virtual absence of such a law, every planter of common sense must attribute in a great measure, the pitiful flocks of sheep within the limits of the State. Your committee reluctantly make the suggestion,—1st, because, at the last legislative session, a petition was presented to that body by this Society, praying the State to make a geological and mineralogical survey of its territory, that such agricultural or other resources as were now unknown, might be developed,—2d, because, in that petition, it was asked that such encouragement as would benefit the whole State, and not be the fruit of partial legislation, should be rendered to the agricultural body. The manner in which all the main objects of the petition were treated, (that is to say, *refused)* your committee would suppose should be sufficient to deter you from petitioning the Legislature again for a like and perhaps less important purpose. However, your committee do not pretend to dictate what course you should or should not pursue: they have merely deemed it necessary to make this statement in connexion with the subject, as rather forced on them, and not one of their own seeking.

All which is respectfully submitted.

B. F. DAVIS, *Chairman.*

March 7th, 1838.

Report of the Petitioning Committee.

To the Monticello Planters Society—

At your last meeting, a committee was appointed to petition the Legislature, on behalf of this Society, that it be incorporated, and such other encouragement given, as the State Assembly, in its wisdom, might deem proper. It surely is within the ordinary range of legislative busi-

ness, to grant Acts of Incorporation: but what is meant when the planter asks for legislative encouragement? On this point, your committee, acting in perfect accordance with your expressed wishes, prayed the State to adopt some course, which would advance the agricultural interests of the whole community—such a course too, as in its results, could not have been construed into an act of partial legislation. We petitioned that body more particularly to appoint a State Agricultural Surveyor, who should be required to survey our territory, that its entire geological and mineralogical resources might thus be developed; and also asked that Agriculture should form a necessary branch of education in our Schools and Colleges. The committee were well aware, that this Society, of itself, required no legislative aid, farther than the mere Act of Incorporation would imply: it will be seen by the last "Acts of Assembly," this request has been granted, but nothing beyond that was accomplished. The agricultural movements of South-Carolina, in her legislative capacity, are unquestionably to be regarded in any other light than creditable, or, we might add, even respectable.

In similar instances, what has been the action of a few of the other States of the Confederacy? In 1836, Maine *imported* 150,000 bbls. of flour: her Legislature votes a bounty to the wheat-grower; and the consequence is, her barren lands yield a doubled produce for domestic consumption, *with a large surplus for exportation.* Connecticut has also been benefited in her agriculture, through her legislators *acting* as if they thought the planter within the pale of some legislative protection or cognizance. Massachusetts, within the last two years, has ordered a general agricultural survey of her domain. North-Carolina, "according to the report of the Civil Engineer in 1826," had a vast quantity of lands "covered with waters," and susceptible of being reclaimed: recently, she has voted upwards of $200,000, to be expended in draining off these waters, that lands so fertile might be thrown into cultivation. The Editor of the Farmers' Register (from whose periodical much of the detail in this report is collected) has been using no ordinary zeal and ability to bring this subject in its proper bearing before the Virginia Assembly; but Virginia as yet has done possibly less in this way, than South-Carolina.

Not twelve years ago, "the Agricultural Society of South-Carolina" was founded: it promised exceeding fair things, though like many other bubble societies, it scarcely outlived its organization. About the same time, Dr. Cooper presented a document to the Legislature, in which he very forcibly urged the expediency of establishing an Agricultural Professorship in the College, over which he then presided: the subject-matter of that document, we presume, was perhaps too utilitarian for the consideration of legislators, whose tenure of office was held at the pleasure of those very planters, whose social and political condition, the report was designed no doubt to reach and improve. If there was a necessity *then* for an amelioration of the planter's pursuit, your committee would suppose the occasion more imperatively demands it *now*, when our lands are impoverished, and our population absolutely driven, by State policy, to seek their fortunes in the fields of the West. When Washington recommended an American Agricultural Board on the English plan, he in all likelihood could have little dreamed that the almost unbounded territory, to which he gave birth, would in less than a century be importing bread-stuffs, to support a comparatively sparse population; yet such is the fact, disgraceful as it may seem. It is proper, it is obligatory on the States within their own limits, to apply the remedy to counteract this or any like evil: and so far as South-Carolina is concerned, your committee conceive that, as she takes the usual care to collect the landholder's tax, she should be willing to return some sort of equivalent.

All which is respectfully submitted.

B. F. DAVIS, *Chairman pro. tem.*

March 7th, 1838.

M'Rieght & Sons' Corn Mill.

Robertsville, March 26th, 1838.

Mr. Editor,—I have never before summoned up courage enough to consent that any communication of my own, should be put in print, to avoid which, I have been waiting for some of our more experienced planters to communicate on this subject. I have waited in vain,

and now feel it my duty to contribute a mite in the cause of humanity.

I believe it is often the case, that our negroes, after working all day in the sun, have to undergo the fatigue of grinding their corn at night with a hand-mill, before they can refresh their bodies with something to eat; and where there are many negroes on a place, they have to lose sleep, waiting for each other to finish. This is a hard case, Mr. Editor, but can be remedied by purchasing a mill of M'Rieght & Sons' make, of Winnsboro', in this State; and grinding on a particular day in each week. I have one of their make attached to my gin-house, and it goes with the same band and machinery of the gin, one stopping for the other. I am much pleased with the one I have, and would not be without it for three times its cost. The mills are small and convenient; two men can lift and carry it about with ease. The stones are about 12 inches in diameter, and 4 inches thick, and are the best German cullen. The bottom stone turns, and by means of a temper rod, presses the grain against the top stone, which is stationary—thus it is ground by compression coming from the bottom, instead of the weight of the top stone,—when the top turns, and the bottom stone remains stationary, as in the old plan. It is not harder work to the mules than the ginning of short cotton, unless the stones require pecking, and that's easily done, for I did it myself, therefore am a competent judge. The mills grind from 4 to 6 bushels an hour, much depending on the gait of the mules, and construction of the running gear.

M'Rieght & Son have an Agent in Charleston, that will send the mills to any part of the State, and the cost will be but very little more than $100, if that.

Now, Mr. Editor, if you agree with me in thinking it a hard case for negroes, to be compelled to grind their corn at night, after working all day for their owners, you are at liberty to give this an insertion in your valuable journal, and oblige

HUMANITY.

Remarks by the Editor.

Such parts of G. L. C's. letter to M. D. A., as we think relevant to the plan, and object of our journal, will be found next in order. We notice with some surprise, the cessation of supplies of bacon from the Cheraw country, is attributed in part to the want of a market, while it is a fact well known here, bacon from other States, to an immense amount of money, is annually sold in this city, for consumption in the interior—even in the Cheraw country. It was no affectation in us, when we expressed a wish, that the adventure of rice from Manilla, had resulted unfavorably. Rice is one of the great staples of the South, and we feel no wish to see the value of it depressed, that Northern and foreign shipping may be profitably employed. We are not inimical to the shipping interest, —but our charity begins at home, and we cannot wish success to any enterprise, the result of which may be a violent blow to, perhaps entire overthrow of, the prosperity of an interest, peculiarly Southern—*our own*—involving the fortunes and happiness, of thousands of our fellow citizens. We are perfectly aware of the cheapness of labor in the East, and it was in special view, at the time we asked "Who would be a Manillan?" The query derives additional point, from the statements of G. L. C. —they shew the condition of the working class, is wretched in the extreme—without proving that of the others, to be much better. It may be said prices are equally low, and the people there, do as well as in countries, where all prices are high. The reverse can be proved, by a very simple operation. Let the planter, or any other individual who lives within his income, double both, his receipts and his expenditures, and if we are not in error, he will find an advance of 100 per cent. upon every thing, will result to his advantage. The low price of labor results from either a scarcity of money, or a superabundance of laborers. From either of these causes, a poor man may starve surrounded by full granaries, or become a subject of public charity; for without money, or employment, how can he obtain food? It is better prices should be somewhat too high, than any thing too low, because the obvious tendency of high prices, is to increase production, while the opposite is true of low

prices; and as high prices cannot be maintained (except for bread-stuffs in time of dearth) without a corresponding fullness in the money market, their benefits, or in other words, the advantages growing out of money being plenty, are felt by every individual, in the advance upon his particular productions. When prices are low, it is clear to our mind, they are *not so low*, as shey should be, because without a stimulant, there will be no increase of production, but most probably a decrease, while by the natural increase of consumers, there will be a progressive demand, which will prevent prices accommodating themselves to a scarcity of money. Low prices are beneficial to but one class—that which lives upon an unchanging income. With these views, we trust we shall be excused, for not wishing ruin, or serious damage to an entire class, that the others might enjoy the spoils, which distributed, would not be worth the carrying away.

G. L. C. we regret to perceive, thinks all our efforts, all our aspirations, are for the benefit of Charleston exclusively—that we consider "Charleston is South-Carolina." We consider this imputation, rather a sorry compliment to his own liberality, and unjust to ourself. Invitations to correspondents in, and from, any section of our country, to make free use of our pages, have been repeatedly published by us—and if they pass unheeded—if we be thrown entirely upon our own resources, and the correspondents in the immediate vicinity of Charleston, —are we justly obnoxious to the charge, of being exclusive in our views—that with us "Charleston is South-Carolina?" We apprehend not. No communication of reasonable length has ever been rejected, if its objects have come within the scope of our work. Our selections are always made from the best works, (among them Mr. Ruffin's) but always with a view to readiest, and most general utility.

We are pleased to learn the *pisé* house, constructed by Dr. Anderson, in Statesburg, gives entire satisfaction, and thank G. L. C. for affording us the opportunity, of apprising the public of its existence—a circumstance, of which ourself was ignorant; or if ever acquainted with it, we had the misfortune to let it escape memory. It is perhaps not venturing too much to say, pisé walls, on a *brick* or *stone* foundation, are (so far as health and comfort are

concerned) preferable to those, built of any other material—as to durability, we may infer much, from the existence to this period in the Eastern world, of sun-burnt bricks, which were laid very many centuries ago—but that qestion, depends greatly, on location and the atmosphere.

We do not know, that we are under any special obligation for the hit "puff and promise," but as passing it by, might appear ungrateful, we think it well to say, the "Barnwell concern," (if we may credit those who should know) is in steady progress to completion, and promises to be, a very comfortable and substantial dwelling. The causes of the tardy accomplishment of this undertaking, are of no interest to our readers.

As we do not know how far back to refer, we are unable to say whether or not, we are justly accused, of not noticing the communication alluded to. If we are, we regret the omission, and acknowledge it was discourteous. But from the subject of it, as stated by G. L. C., we think our readers will observe it had little to do, with wooing the favors of mother earth. It required more space, than we could afford a subject, so very indirectly connected with agriculture; and moreover, we were required to search two volumes of twelve hundred pages each, for matter to complete and fit, the communication for the press. The reference to the columns of the Southern Patriot, was then as vague, as it is now—covering two years. We think it but reasonable, all the matter required to be published, should be laid before us and submitted to our judgment, whether it is admissible into our pages, or not. We think it not quite fair, to impose on us the task, of running over 2400 pages of a newspaper, to *learn* what it is, we are required to lay before the public. We feel persuaded, our readers will hold us excusable, when we shrink from burdens, we are not strong enough to bear.

The Rail-Road, having been laid down and in successful operation some years, no possible good can result from discussing the merits of any other route, unless indeed, it be in contemplation to construct another. The condition, prospects, &c. of the Road, are treated of at large by G. L. C., but for the reason already given, and the conviction, that his opinion and suggestions would at any period, better become a daily journal, we can do no

more than give the prefaratory remarks, and republish the legal decisions appended to the communication. Having done thus much, without sparing ourself; we hope G. L. C. will be satisfied of our sincerity, in disclaiming every wish, to make Charleston—the *State of South-Carolina*.

To G. L. C.

St. Paul's, March 30, 1838.

Sir,—When I penned for the Southern Agriculturist, some remarks upon things as they have been, and recommended the return to old, but good habits; nothing was farther from my anticipations than the compliment of a personal communication to myself. The request that I will notice it, is in my judgment, best complied with, by passing it to the Editor of the Southern Agriculturist, who will doubtless publish all or so much of it, as he may judge suited to his work. As I do not wish to be drawn into the discussion of any subject, I trust you will excuse my not commenting on the communication I have been honored with.

Tendering you my respectful acknowledgments for the notice taken of me, I am, dear sir,

Your obed't. serv't.

M. D. A.

To M. D. A.

Sir,—It is without preface, and I hope I may add, without apology, I state to you, that some observations of M. D. A. in the Southern Agriculturist, and the probability, that, through a medium so intelligent and patriotic, a little, if not a great good, might be effected, this communication is to be attributed.

You allude to your reminiscences of "the Cheraws." They remain the same. In the Marion district they have increased. Their bacon retains the original good taste; but cotton, and the want of a market for stock, have con-

tributed to injure the growth of bacon, beef, and perhaps I might add, of mutton—not however, more manifestly and manifoldly than in your own lower district, of which more will be said in the sequel.

You very judiciously call the attention of the public to the injurious practice, of not only depending on a foreign source for the supply of bread-stuffs; but, your reflections on the subject call upon it to recollect its baleful consequence—the expenditure of so large a capital, at a distance from home, (the greater as it increases)—in short, together with an absence from property, requiring, in an especial manner the presence of the proprietor, and producing all the varied and vicious results of a most injurious absenteeship.

Scarcely had you written lines, pregnant with so much truth, and distinguished by so much correctness, than out came the astounding fact, that Manilla and India rice had been sold in Charleston, for 287½ and 350 cents per 100 lbs.; and, after discharging the expense of cultivation, a transportation of 15,000 miles, and a re-shipment from the port of importation—*paid a profit*. The Editor of the Southern Agriculturist affects to wish the shipment had occasioned a loss—of course, that high prices had continued, speculation been fostered, and to these communities, the road to ruin more fully opened. Is he ignorant that labor in the East, *per capitem*, does not exceed, if it equals, $20 *per annum*; and can he or any other man in his senses believe, that with *operative* negroes (hominy eaters I reckon as nothing) at $1000 *per capitem*, and certainly at a hire, *de facto*, although not *eo nomine*, of $100 *per annum*, the Carolina planter *can* vie with the Asiatic cultivator in either rice or cotton, and perhaps many, very many other articles of luxury or necessity? If he will read, what every man, and especially an editor who pretends to cater agricultural information for Southern planters—Ruffin's Farmers' Register—he will discover there are immense districts of land in India, capable of producing large masses of bowed cotton; and in districts where labor will not annually cost more than $15 *per capitem;* and, in the face of this alarming circumstance—in the face of an inspection at Baltimore of 240,000 barrels of flour, from foreign wheat, out of 400,000—in the face of all the impediments arising from a high price of provisions, to Eastern manufacture, and the con-

sequent deprivation of the South of a lucrative market—in the face of all this, are the city and the State to be converted into one great lunatic asylum, seeking profit in banks of paper, instead of the bowels of their provident and prolific parent. But, uniting in opinion with a brawling demagogue, who I once heard say, that with "free trade," slave labor could successfully compete with the whole world, I suppose he has passed over this, as he has the intimation of Mr. Ruffin, relative to the excellence of the calcareous material to be found 70 miles from Columbia, and which was sent for analysis and result to Mr. R., by the member of Congress for Richland, Barnwell, &c. However, as it did not proceed from Charleston, there is as sufficient reason for its want of notice, as is to be found in the *dictum*, that like Paris which is France, Charleston is South-Carolina. Of this spirit of illiberality, one out of many proofs is to be found in the total silence, relative to the only *Pisé* building in the State, and in papers most elaborately and expensively prepared—I say the only one, because from various sources, I have good reason to believe that Dr. W. W. Anderson's house in Stateburg, is, when *critically* examined, the only perfect piece of *Pisé* work in the country. Of the Barnwell concern, we have had puff and promise; but as far as is known, no performance. Considering the attempt of the Columbian and Chicoran contributors to the Southern Agriculturist, to suppress, or rather to keep from public view, a building of the kind, which had *proved* its value by a use of 15 years,—a communication on the subject was certainly requisite.

But the spirit of exclusiveness is fully ripe, and outrageously rife in Charleston, and I would hope nearly rotten, and approaching its end. It is not long since a communication, made up almost, if not exclusively, of a letter written by M. Vignoles, to Mr. Poinsett, relative to the Ashley and Edisto Canal (applicable to a rail-road) and alluding to a body of stone "fit for builders," to be found on the Edisto, *was sent* to the Southern Agriculturist, with a view to its publication, and a reference to other and explanatory papers, to be found in the Southern Patriot of 1818 or 1819. It passed unnoticed, as did an application to a friend of Mr. Poinsett, who seemed to think the papers were still to be had, and to believe the fact—an opinion confirmed by the statement of the Sena-

tor from St. George's; and if there ever was an opportunity for a cheap, profitable, and valuable rail-road, it is to be found in the completion of one of 11 or 12 miles, between the two rivers. (Bricks are now $16 per M.) Indeed, had the agricultural interest of the country been consulted, this or a route near to it, would have been that of the road to Augusta. It was proposed in the Charleston Courier of 8th June, 1827, and the attention of an eminent citizen was called to it. Let a deputation come from Wilmington, as to a rail-road and steamer communication, and a host is ready to meet and forward its views. Let the citizens of South-Carolina but move the Legislature for a bill for a rail-road, then up rises the Charleston Senator, threatening to use his influence against it or any similar measure, if the rights (rights, forsooth!) of the Charleston Rail Road Company, are to be invaded.

Yours, &c.

G. L. C.

Charles River Bridge Case.—A charter was granted to this company, with privileges and profits, for a term *not yet expired.* Another charter was afterwards granted to the Warren Bridge Company, near the same place, *which absorbed all the profits of the former.* In a suit, by the former company against the latter, the question was, whether there was a contract express or implied in the charter. The court held that there was none, and that therefore there was no violation in granting the latter charter.—(Copied from "The Presbyterian.")

Judge O'Neale.—I do not understand that *Banking (lege* rail-road making) is a liberty or franchise belonging to the State in her sovereign capacity. It is beyond all doubt a private right, and may be exercised by any man or men, according to his or their means of credit. *Corporate banks were erected to prevent liabilities attaching to stockholders, beyond the corporate assets.*

A New Thought.

Effingham County, Geo. Feb. 10, 1838.

Mr. Editor,—In your last September number, I saw a communication relative to the sun-flower, and as you seem willing to "gather up the fragments, that nothing be lost," I take the liberty of saying, that I have been in the habit of planting the sun-flower a number of years, to a limited extent.

There are several fences, which lead from my yard fence, to the surrounding woods—the weeds and grass growing up in the fence corners, formed ready ways for snakes to visit the yard. To prevent this, the hoe is used to keep these ways clean, and so prevent the temptation to their visits. Now, while all this operation is going on, I have two hills of sun-flowers growing in every fence corner; 2 stocks (or say 3 or 4) in a hill, planted early in the spring. About the time that my long forage gives out, these begin to bloom. As the blossoms begin to appear, I cut them off about a foot from the ground, and give to my horses, which eat them very readily,—leaves, buds, stocks, and all. This I consider a very wholesome, as well as nutritious food. Thus the ground that has to be kept clean, to prevent unwelcome visitors, is made in the mean time to yield profitably.

If, in your judgment, you think proper to introduce this scrap to the company of your more useful communications, it is at your service.

A SMALL GOSHEN FARMER.

The sun-flower is not only valuable as provender for cattle, and feed for poultry, but as a medicine. A tea made of it, and sweetened with honey, is quite as good, if not better, than that made of flax-seed, in catarrhal affections. We are not acquainted with the average weight of the seed of the sun-flower, but in our readings we have seen it affirmed, they yield almost half their weight in oil, and it is stated, the oil burns as well as the best sperm, with the exception, of forming a slight crust around the top of the wick. We wonder not a little, more general attention is not given to the cultivation of a plant, available for so many economical, and useful purposes.—*Editor.*

Remarks by the Editor.

Our correspondent Humanity, thinks grinding corn, &c. after the ordinary daily tasks are done, is oppressive. So do we. Prevail where it may, it is a bad practice, and is prompted by a false economy, or a grasping avarice, which overreaches itself. When the daily tasks are done, the hands should be at liberty to dispose of the remaining hours—for choice of, and contentment in their recreations, are almost as essential to the retention, or resuscitation of their physical powers, as food itself. Nothing so soon breaks down the spirit, and destroys the constitution of man, as compulsory, *extra work*. We consider grinding corn, or doing any thing else, embraced in the routine of plantation employments, oppressive, if exacted in addition to the ordinary tasks. All extra work should be of that kind which cannot be foreseen—such as repairing injury from wind, burning of fences, or sudden rise of the river, casualties (some or every one of which) all plantations are liable to, and which cannot be provided for, or guarded against. A particular day of each week, should be set apart for grinding corn, &c., and the hands should do it in rotation, as a *substitute* for other work; or, let certain laborers have, on fixed days, shortened tasks, and be required to give the same time and labor to the grinding of corn, which they would have spent upon the field. We think whole grain should never be served out to *any* laborers—it is of too ready sale,—while grist, from its unfitness for keeping till a large quantity is taken in, will find comparatively few purchasers. Corn will purchase ardent spirits, tobacco, &c., and often the laborer ekes out another week, upon the plunder of friend or foe, after having exchanged his allowance, for these deleterious articles. That no good *can possibly* result from feeding out whole grain, is of itself, a sufficient argument in favor of supplying every plantation with the number of mills, requisite for preparing the provisions consumed upon it, without encroaching upon the time, which properly belongs to the laborer, and which, should be devoted to recreation and repose.

Tropical Fruits and Plants.

The establishment of a Nursery in Florida, for Tropical Fruits and Plants, we are happy to have it in our power to record, is receiving that attention from Congress, which the vast importance of the enterprise demands. Most sincerely do we hope an Act of Congress will be passed, making such provisions, and extending to Dr. Perrine and his associates such aid, as will insure the success of their arduous undertaking. The Nursery will be located in Florida, but if the success of the contemplated experiment shall be equal to the anticipations of its intelligent and able advocate, the benefits resulting from it will be diffused, and felt throughout the Union. Some of these plants, it is thought, will flourish in latitudes considerably higher than ours, and if none of them can be climatized, in the Middle and Eastern States, let them not be jealous—but let them remember, the South and South West produce no staple, which does not largely, though indirectly, benefit them. We have seen without pleasure, two lots of Manilla rice in this market, but if evil results to us from the success of that experiment, Dr. Perrine promises us a plant from the same region, which if he be not deceived, will more than counterbalance any injury we may sustain as rice growers. Among the plants proposed by Dr. P. to be climatized in the U. States, is the Manilla Flax, which he represents to be a beautiful fibre, capable of being wrought into coverings, fit for the bosom of beauty, or cables, fit for the Pennsylvania—that mammoth man-of-war. It is a matter of the greatest importance, to the success of this great experiment, that Congress should act conclusively this session, on the reports of the committees, and we would respectfully suggest to every Agricultural Association in the Union, but particularly to those in the Southern and South-Western States, to pass and forward resolutions, recommending to Congress to grant such aid to Dr. Perrine and his associates, as will enable them to prosecute their enterprise successfully. It merits the patronage of the General Government, and as the undertaking is too vast, and comprehensive, for individual energy and private fortune, we trust Congress will not rise, and leave Dr. Perrine to hope—which "deferred, maketh the heart sick."

PART II.

SELECTIONS.

On draining by the plough, and the proper formation of ridge and furrow.

[From Johnstone on Draining—extracted from the Farmer's Register.]

The invention of any means by which labor may be diminished and expense lessened, is an object desirable in every mechanical process, and has always been liberally rewarded when found to be useful. In the various branches of manufacture, machinery has been invented to facilitate the operations, and to lessen the necessity of manual labor; and the thrashing machine has been found so useful in that department of husbandry, as to be successfully introduced into every part of the kingdom. It is imprudent, too hastily to prescribe a limit to human invention; but the probability of an *effective hollow draining plough*, to work so much cheaper than the spade, as to render it an object of economy, is not very flattering. There can be no difficulty of making one to prepare for the narrow draining spade, where surface drains of no great depth are required; but beyond that the attempt would be fruitless. Various ploughs, indeed, have been invented, and premiums given to the inventors; but all, or most of them, have been found deficient, and have been therefore laid aside. From the number of horses or oxen required to work them, ploughs calculated for this purpose are more expensive than the spade, and never can come into general use. In lawns and smooth pastures, where only *grips* or small surface-drains are useful, the common draining plough may be employed with advantage; but in soils that are strong, and where a greater depth is necessary, the interruptions that would be met with are insurmountable. The method followed by some good farmers, who do not possess ploughs constructed on purpose for such work, is this: with their common plough drawn by four horses, they turn a double furrow, about six inches deep, throwing the earth on each side, and leaving a *baulk*, or space untouched, in the middle. This baulk they remove by a second *bout* or turn, in the same manner; they then go in the wide furrow or space thus opened, twice with their common double-breast plough, getting what additional depth they can. After this, they remove, with a spade or shovel, all the loose mould, so as to smooth and form the bottom to about a foot in breadth; and thus having gained more than a foot in depth, according to the soil, and strength of the plough, they dig one portion with the draining spade, sixteen inches deep, and

after that another of twelve inches, making in the whole a drain forty inches in depth, two feet wide at top, and very narrow at bottom. This is filled with stone or brush-wood, as comes most readily to hand and forms a cheap and useful drain in certain soils and situations.

The ploughs called the *miner* and *mole-plough*, as also a machine of cast-iron, in form of a wheel, are used in several parts of England, and said to answer well; but as they have not been introduced into general practice, drawings or descriptions of them, are here unnecessary.

It has been already observed, that on some soils, where the suface is flat and very retentive, no number of covered drains can operate effectually in keeping it dry. In such land therefore, much may be effected by a proper formation and direction of the ridges and furrows. Much has been written against high ridges, without consideration of their propriety; and because they have been applied on dry soils absurdly, and being the custom in some parts of the country, no discrimination has been made; but their being improper in some cases, and ill managed in others, affords no just argument against them, when adapted to the soil and wetness of the climate. One objection, indeed, and that not a slight one, against raising ridges too high, is, that the rain falling, washes off more easily the finer particles of the soil and manure from the sides into the furrows, in which it is carried off the field; and that the seed cannot be so equally sown, and may be drawn into the furrows by the harrowing; and it likewise renders cross-ploughing more difficult. In many instances ridges are laid too broad and flat, and the furrows neither properly directed, nor of sufficient depth. By this means, water stagnates both on the ridges and in the furrows, which in wet seasons, makes the ploughing laborious, and proves injurious to the crop. In the carses of Gowrie and Stirling, as has already been observed, the practice of having the ridges of a proper breadth, enough, but not too much rounded, and the furrows in such a directions of such depth, as to carry off readily all surface water, is now so much more attended to than formerly, that their present fertility has been very much advanced by these means. The simple operation of water-furrowing is attended with such beneficial consequences, that wetness may often be removed by that means alone, without the aid of drains and where the omission of it frequently causes the loss of part of a crop. Water-furrowing also is of great use in pasture fields, where, by scouring out and clearing the furrows before winter, the water is prevented from lodging, and soaking into the soil, making it easily poached; and chilling the roots of the grass, renders it latter in coming forward in spring.

Flemish Husbandry.

[FROM THE PLOUGH BOY.]

To the Editor of the Plough Boy:

Sir,—Much has been said in praise of English husbandry, yet it is a well known fact, that this vaunted system is surpassed in many countries which do not possess equal natural advantages. In Scotland, agriculture has progressed at least half a century beyond that of England where the soil and climate is far more congenial to the productions of the earth than the "bleak mountains of Caledonia."

But no where in the world is the contrast so marked as that between the Flemish and English mode of cultivation.

The average produce of a crop of wheat in England, is twenty-four bushels per acre. In Flanders, it is thirty two bushels. In England, the system of *fallows* almost universally prevails. In Flanders, it has been unknown from time immemorial; two crops, in many cases three, being uniformly raised annually upon the same field. The following comparative tables, as exhibited in 'Vanderstraeten's Sketch of the Flemish System,' show clearly and correctly its superior advantages over that of England:

Produce of the Flemish farmer from one acre, for 12 years.		*Produce of the English farmer, according to the Norfolk course, for the same period:*	
Wheat, 32 bushels per acre,	4 crops	Wheat 24 bushels per acre,	3 crops
Barley, 60 bushels per acre,	4 do.	Barley, 32 bushels per acre,	3 do.
Flax, hemp, cole-seed and potatoes,	4 do.	Turnips,	3 do.
Roots and vegetables for the food of cattle,	10 do.	Clover,	3 do.
In 12 years,	24 crops	In 12 years,	12 crops

This immense difference in favor of the produce of Flanders, does not arise, as might be supposed, from its possessing a better natural soil, or a milder climate than England, but entirely from the different mode of cultivation pursued in these two countries. At no very distant period, the fields of Flanders, now so productive, were little else but loose sand and gravel, whereas. the soil of England was always naturally fertile, and in part, lies under a more southerly parallel than Flanders.

The rich, abundant, and healthy crops obtained by the Flemish farmers may be traced to the following causes:

1. The abundance and judicious application of manure. 2. Digging all the lands on their farms with the spade, every six or every three years. 3. The complete extirpation of weeds and noxious roots. 4. Regular and repeated hoeing. 5. A careful choice, and alternation of grain and seeds for sowing. 6. An improved rotation of crops.

"The whole secret, (observes Vanderstraeten,) respecting the superiority of Flemish agriculture, consists in this: the farmers procure plenty of food for their cattle—food which, excepting clover, is raised from the same lands, which have already yielded their crops of grain, &c. They keep the greatest possible number of cattle, feed them in the stables plentifully, and render their food palatable. They collect the greatest possible quantity of manure, of which they preserve the fertilizing salts by a suitable process of fermentation. They weed their grounds thoroughly and repeatedly. They totally exterpate noxious plants and roots, every six or every three years, by digging all the lands on their respective farms—an operation by which they revert to the surface a stratum of fresh soil, that for three or for six years has been absorbing the salts of manure as they filtrated to the bottom of the roots; a stratum of soil which has produced no crop during the same period. They, moreover, dress their grounds to the precise point of perfect pulverization. These are inestimable advantages, which cannot be obtained by any plough whatever: hence, the drift

of the Flemish adage—"Never to let the naked ground lie open to the sun in summer for more than three days."

"In truth to say that there exists a vast province, in which the price of lands has been quadrupled within fifty years, and which is neither placed under a more favorable climate, nor enjoys a greater fertility of soil than England: from which fallows in general have been banished from time immemorial; in which the greater part of the lands produce in nine years at least fifteen harvests, of which, those of grain, yield one year with another, as high as thirty-two bushels of wheat per acre, those of barley, sixty bushels, and those of oats, ninety bushels; and where the borders of the fields are planted with trees in such numbers, that by their sale the proprietors acquire, every forty years, a sum of money equal to the soil; to say this, appears, to other than Flemish readers, to repeat a tissue of fables.* The less informed, attribute this uninterrupted succession of harvests to the inexhaustible fertility of the soil; but intelligent and well informed travellers attribute it, on the contrary, and with the best reason, to the indefatigable industry of the inhabitants, and to a highly improved mode of culture, of the details of which they are themselves ignorant, and which beside, from their complication, and the great variety of the productions of the soil, require a profound study, of many years duration, to which few of them have either the inclination or the leisure to apply."

This correct, though "bird's eye" view, of Flemish husbandry, merits farther amplification, in order to furnish distinct data to the intelligent and enterprising agriculturist. My subsequent communications will be directed to that subject.

Respectfully yours,

GEO. HOUSTON.

New York, April 18, 1820.

Flemish Husbandry.—No. 2.

Sir,—I shall now, as promised, give some details, respecting the Flemish mode of cultivation.

1. *Manure.*

A Fleming spares no cost† nor labor to obtain this necessary article.

* In Flanders, wheat yields 20; rye, 26; barley, 26; and oats, 40, for one. Wheat holds only the fifth rank in value in the harvest of Flanders In England, wheat never yields more, on an average, than 10 or 11 for one; barley, something less than ten to one; and oats only between eight and nine for one. In some highly ameliorated farms in the county of Suffolk. Arthur Young reports a produce of 36 bushels of wheat, and sixty-four bushels of barley to the acre; and that in the country of Kent, soils of middling quantity, ameliorated, yield per acre, fifty two bushels of wheat, and the same quantity of barley. But in Flanders, there are soils which yield much more than this—namely, seventy-two bushels of wheat, 120 of barley, 128 of beans, and seventy-two of cole-seed. These, however, are extreme cases, which do not affect the general question of comparative growths: while, however, they show that the amelioration of land in any country, is calculated greatly to increase its productiveness.

† "It is within my knowledge," (says Vanderstraeten,) "that villages of 6,000 acres of surface expend, in the purchase of dung and other manures, more than £26,000 sterling besides the enormous quantity of dung from their own cattle. This expense is immense, but it is returned with the greatest usury."

What his domestic arsangements do not produce, he supplies in the neighboring towns and villages; but it is chiefly upon his cattle that he relies. Of these, he rears an immense number: five times more in proportion, than is done by the English farmer, by which he obtains at least triple the quantity of dung. He is equally careful to preserve the *liquid* portions of this manure, which contain the greatest proportion of fertilizing juices. For that purpose, the stalls and stables where the cattle are kept, are paved with a cement impervious to water; a precaution, by which no part of the urine of the animals is lost; while dung pits, to which there is a communication by little channels from the cattle-stalls and privies, are formed and lined with the same cement to receive this valuable deposite. This liquid manure is commonly reserved to enrich the ground during the second and third year's cropping an abundance of the more solid manure having been spread the first year of the course.

Nor is the Flemish farmer indifferent to the conversion of weeds, waste straw, and other vegetable matter into manure. These he collects and disposes in such a manner as to produce fermentation, by which the whole mass is decomposed and converted into a fertilizing substance.

2. *Digging.*

Under this head, I shall content myself with the following quotations from "Vanderstraeten's Survey:"

"In Flanders, before the introduction of the operation of digging, few lands, or rather none, had a stratum of vegetable mould of eighteen inches deep. It is art and industry which have created this. The greater part of her beautiful fields were then only moving sands, or soils even still more ungrateful. Observe, then, the methods which were used to raise them to their great fertility. In the beginning, they were dug to a smaller depth, and upon the moving sands was spread a great quantity of dung, of which the grosser parts, as well the straw which was mixed with them, where decomposed into fertile soil. It was the same with the grain and stubble left by the crops, with the noxious weeds and roots. All those vegetable remains began to give fertility and consistence to the sands, and in proportion to the fertility and consistence which the soil acquired, the spade was pushed to a greater depth. The sand, of which the spade increased the vegetable stratum, was already no longer barren, because it was enriched with the juices of the dung, which the rain had carried below the depth to which the spade had not yet reached. The abundance of dung and the annual supply of vegetable matter, changed, in the end this moving sand into the blackest mould, which can possibly be seen in some places of a depth of eighteen inches, and in others of two feet!

"The methods taken with the other soils, more ungrateful still, were nearly the same. The amelioration which the Flemish agriculture produces in soils almost steril, is annually visible; but, in all cases, the greatest possible degree of fertility can only be the work of time. This amelioration, however, may be produced very rapidly in soil which have, at their commencement, only four inches of vegetable mould, and which repose on a stratum of good earth, though rendered as hard as a rock by the plough-share. A similar low stratum existed in Flanders before the introduction of digging.

"Periodically every three, four or seven years, the spade in Flanders, raises upon the surface a stratum of earth, which, under the

stratum that has produced the crops, has enjoyed a fallow of three, four, or seven years, and, in consequence, has yielded no crop itself; a stratum already fertilized, in some degree, by the decomposition of the weeds which grow upon it till the moment when it was buried, and enriched with the salts of the dung, caused by the rains to filtrate, during the interval, through the upper stratum. This stratum may, therefore, in consequence, be regarded as a virgin earth, possessing the most extreme degree of fertility, through the manure it has received, and to which more is now to be added.

"The operation of digging, especially in light soils, is performed with great rapidity. A good workman can dig in the space of a day, the twenty-fifth part of an acre, to the depth of eighteen inches, at one stroke of the spade. He thus buries the upper layer and brings to the surface the lower layer, which has produced no crop for three or for seven years, nor the same crop for six or for fourteen."

I shall embrace the earliest opportunity of resuming this interesting subject.

Yours respectfully,

GEO. HOUSTON.

New York, May 1, 1820.

Peat Earth and Peat Ashes, important sources of fertility to the Farmer.

[FROM THE NEW-YORK CULTIVATOR.]

Peat earth and swamp muck from our marshes and swamps, are composed principally of decayed vegetable matters, washed in from higher grounds, or the remains of aquatic plants, which have grown and decomposed on the spot. They almost invariably constitute a valuable manure for uplands, and may be rendered fertile in their place of deposite—when brought into a soluble state by fermentation, or reduced to ashes by fire. These deposites of vegetable matter are often the accumulation of centuries, and have been preserved from ordinary decay, by the presence of too much water, and too little heat and air, until they have become so antiseptic in their quality, as to resist putrefaction in many cases, even when laid dry, until they are brought in contact with fermenting substances, or changed in their nature by the action of fire. These agents it is the province and interest of the farmer to apply. And to instruct him in the mode of employing these great auxiliaries of fertility, is the object of this article.

The first step in this process, is to drain well the ground where this earth is deposited, or has accumulated; or, if this is impracticable, to remove the earth to dry ground.

The second step is if the change is to be effected by fermentation, to mix with other substances which will readily ferment, or induce fermentation remotely. This may be done by top-dressing, or by composts. The latter is employed when the object is to enrich up-land, and the former when the intention is to render the drained marsh or swamp fertile. The best compost is made of one part unfermented manure, and three parts of swamp earth, placed in alternate strata, to the heighth of four to six feet. When the temperature of the centre

of the mass has reached 80 or 90 degrees, which may be ascertained by a stick shoved in, and left to acquire the temperature of the pile, fermentation has sufficiently progressed, and the whole may be mixed and applied to the soil with certain advantage.

Composts may in like manner, be made with lime, green vegetable matter and ashes, and the fermentation accelerated by urine, soap-suds, sea-water, kitchen-wash, &c.

Fermentation may be induced by carting the earth to the cattle yards, and spreading it to the depth of eight inches or less, to become incorporated, by the tread of cattle, with their dung, urine, and the liquids of the yard. And it may be induced remotely, by spreading the swamp earth immediately upon the up-land especially if sandy and dry, where it becomes mixed with the vegetable matters of the soil and with them undergoes the desired change.

To induce fertility in a peaty soil, after it has been laid dry, a good dressing of long manure, or of lime, are effectual; and often a mixture of three or four inches of sand with the upper stratum, has proved highly efficacious. Paring and burning is another sure means of inducing fertility. In this operation, some inches of the surface, so deep at least as to embrace the roots of our aquatic and other growing plants is pared off, dried and burnt, and the ashes spread and mixed with the soil.

These operations may be carried on at any season when the ground is not frozen, and when the teams and hands on the farm find leisure. There are but few farms, and fewer districts, that do not abound in this element of fertility.

Peat ashes constitute an article of commerce in Europe, and vast quantities are transported from Holland to Belgium and Flanders, to fertilize those highly cultivated districts. These ashes cost about $13 per ton. A bushel of the best sort which are black and heavy, weigh about forty pounds, and the ton containing fifty-six bushels, the cost of manuring with them, at the rate of nineteen bushels the acre, would be about $4 50. These ashes, according to analysis of Professor Brande, contain, in 100 parts,

Of silicous earth,	32 parts.
Sulphate and muriate of soda,	6 "
Sulphate of lime,	12 "
Carbonate of lime,	40 "
Oxide of iron,	3 "
Impurities and loss,	7 "

The mode of their application in Flanders, is as follows: They are spread upon young clover, in the spring, in clam and hazy weather, at the rate of eighteen or twenty bushels the acre. They are also laid on pastures and on wheat in March or April; on oats and beans in the begining of May, and on rye in October and November. Their chief employment is, however, for green crops; it having been found, on comparative trials in Flanders, that top-dressed clovers, where the ashes were used, where much earlier, heavier, and superior in every respect, to those which had undergone a top-dressing of horse and cow dung. One of the best evidences of their utility, is the fact, that the clover crop never fails when they are applied. Besides improving the crop, they are also useful in preventing the injuries arising from insects, and when applied to pasture they are highly serviceable in the distruction of moss. To numerous individual declarations of their beneficial effects, Sir John Sinclair, to whom we are indebted

for this part of our statement, adds the public declaration of eighty-three practical Flemish farmers, to the effect, that "they know by experience, that when clover is not manured with Dutch ashes, at the rate of nineteen bushels per acre, the following crop is very bad, notwithstanding any culture that may be given to the soil, whereas they always have an excellent crop of wheat, after clover, and, doubtless in proportion to the quantity of manure then used." The farmers who signed this declaration, in most cases, carted the ashes forty and fifty miles by land, after they had been transported by water from Holland.*

But the use of peat ashes is not confined to the Netherlands. They are extensively used in Britain, and are produced in large quantities from what is termed the Newberry peat. We find in British Husbandry, the following description of the mode of burning the peat, and statement of the application and utility of the ashes:

"The peat is cut with a peculiar kind of spade, into long pieces, about three and a half inches broad every way, after which it is conveyed from the spot where it is dug, in wheel-barrows to a short distance where it is spread upon the ground in regular rows, until it be dried by the sun and wind. It is thus cut down until the gravelly bottom is reached, if it can be sufficiently drained; but although persons are employed to pump the water, that cannot always be completely effected.

"After having laid thus to dry about a week the pieces are turned and this being three or four times repeated, a small round heap is made in the middle of the place where the peat is spread, and in the centre, some very dry peat is put, which being lighted, the fire communicates slowly to the rest of the parcel. When it is completly lighted, an additional quantity is put upon the heap, and this is continued till the whole is consumed, which generally occupies one or two weeks, and sometimes still longer, as quick burning is not approved of, and rain seldom penetrates deep enough to extinguish the fire. The heaps are commonly of a circular form, and rather flat at top; at first very small, but gradually increasing, until they sometimes become two or three yards deep, and six or seven yards in diameter. According as the peat is more or less dry, or contains more or less essential oil, or, as it is termed, more or less fat—according as the weather is favorable or otherwise, and in proportion as the heaps are more or less large, just so much a shorter or longer time will it take to consume. A fire regularly kept up, but burning by slow degrees, will retain more of the vegetable alkali in it than a more quick one; and in proportion to the heat of the fire, the same quantity of peat will produce more or less ashes: Thus it has been stated by Mr. Malclom, that in the parish of Frimby, in Surry, three loads of dried peat, which is about the size of the usual heap, will yield from 6 to 7000 bushels, [of peat] which have been sometimes known to yield 2400 bushels of good ashes; though the peat is generally so reduced in measure by combustion, that the ashes seldom yield one-fourth of its original bulk. The ashes being riddled, are then conveyed away in covered carts, and put under sheds to keep them from the wet until they are wanted for the land; for, if kept under cover and dry, they are infinitely more strong and active than those which have been made some time, and have been exposed to the weather; the fresher

*See Sir John Sinclair's account of the Agriculture of the Netherlands; also Radcliff's Flanders.

they are, when used, the better. The usual time of applying them is in March and April, in the proportion of 12 to 15 bushels per acre, according to soil and crop, as too large a quantity would be injurious, though on meadow land, twenty bushels are often laid with advantage; and when not used as top-dressings, they are commonly spread at the same time the seed is sown, though for grass, many people prefer the autumn. For corn crops, however, they are not in much estimation; but on turnips, they are said to assist in checking the fly, and they are supposed to increase clover nearly a ton of hay the acre, beyond what it would have yielded without them. Their effect, however, is not calculated to last more than a couple of years, but they are of such benefit to that crop, and to the succeeding wheat, that when a tenant quits a farm, on which ashes have been laid the preceding year, it is usually customary to allow him one-half the expense." These ashes are sold at Newberry at about seven pence (a New York shilling) the bushel. They are found to contain from one-fourth to one-third part of gypsum, and sometimes even a larger portion. The other constituent parts are a little iron and common salt, with various proportions of clay, sand and lime.

Our attention has been turned to peat earth and peat ashes, at this time, particularly, by a late visit to Staten Island, where we saw their utility as fertilizers of the soil, favorably developed in the practice of a gentleman, once distinguished in the business of the law, and now no less distinguished for his enlightened and systematic practice in the business of agriculture. He showed us the beds of several ponds or marshes, which he had drained, containing vast depositis of peaty earth, large quantities of which he was converting into manure, by some of the processes we have detailed, and also about 5000 bushels of ashes which he had made recently, by burning peat. His mode of obtaining the latter was as follows:

He drained off the water to about three feet below the surface, and when the latter had become sufficiently firm, he went on with a six ox team, and turned ten or a dozen prairie furrows upon the outer edge of the deposite. As soon as the turf had dried sufficiently in the summer sun, he proceeded to construct the centres for his intended pits, by setting up a few sticks of wood and dry brush, at small intervals, around the border, like the centre of a coal-pit. Around these he piled his dryest turf, and having fired hte interior, fresh turf was added, as circumsuances seemed to warrant, till the pile became quite large. In this way, with compara tively little labor, he had obtained his 5000 bushels of ashes, which were principally intended as a top-dressing for his grass lands. So abundant did the gentleman consider his resources of fertility—in his peat earth and peat ashes—his sea weed and his fish—in the dung of his animals, from his oxen to his poultry—and in the litter and wash of his yards and kitchens—that he calculates confidently, and we believe on safe grounds, that he would be able to manure 160 acres of land annually.

These hints cannot but be acceptable to farmers on the sea-board; and the highly commendable example which we have given above, we trust will stimulate them thoroughly to try these neglected means of enriching their lands.

A Synopsis of the Modern Improvements in Agriculture.

[FROM THE AMERICAN ENCYCLOPŒDIA.]

We shall conclude with a few brief notices of some of the most prominent benefits and improvements which modern science has contributed to the art of agriculture. The husbandman of antiquity, as well as those of the middle ages, were destitute of many advantages enjoyed by the modern cultivator. Neither the practical nor the theoretical agriculturists of those periods had any correct knowledge of geology, mineralogy, chemistry, botany, vegetable physiology, or natural philosophy; but these sciences have given the modern husbandman the command of important agents, elements and principles, of which the ancients had no idea. The precepts of their writers were conformable to their experience; but the *rationale* of the practices they prescribed they could not, and rarely attempted to explain. Nature's most simple modes of operation were to them inexplicable, and their ignorance of causes often led to erroneous calculations with regard to effects. We are indebted to modern science for the following among other improvements, viz: 1. A correct knowledge of the nature and properties of manures, mineral, animal and vegetable; the best modes of applying them, and the particular crops for which particular sorts of manures are best suited. 2. The method of using all manures of animal and vegetable origin while fresh, before the sun, air, and rain, or other moisture, has robbed them of their most valuable properties. It was formerly the practice to place barn-yard manure in layers or masses for the purpose of rotting, and turn it over frequently with the plough or spade, till the whole had become a mere *caput mortuum*, destitute of almost all its original fertilizing substances, and deteriorated in quality almost as much as it was reduced in quantity. 3. The knowledge and means of chemically analyzing soils, by which we can ascertain their constituent parts, and thus learn what substances are wanted to increase their fertility. 4. The introduction of the root husbandry, or the raising of potatoes, turnips, mangel wurtzel, &c, extensively, by field husbandry, for feeding cattle, by which a given quantity of land may be made to produce much more nutritive matter than if it were occupied by grain or grases crops, and the health, as well as the thriving of the animals in the winter season greatly promoted. 5. Laying down lands to grass either for pasture or mowing, with a greater variety of grasses, and with kinds adapted to a greater variety of soils; such as orchard-grass, *(Ductylis glomerata,)* for dry land, foul meadow grass, *(Agrostis stricta.)* for very wet land, herds grass, or timothy, *(Pleum pratense.)* for stiff clayey soils, &c. 6. The substitution of fallow crops, (or such crops as require cultivation and stirring of the ground while the plants are growing,) in the place of naked fallows, in which the land is allowed to remain without yielding any profitable product, in order to renew its fertility. Fields may be so foul with weeds as to require a fallow, but not what is too often understood by that term in this country. "In England, when a farmer is compelled to fallow a field, he lets the weeds grow into blossom and then turns them down; in America, a fallow means a field where the produce is a crop of weeds running to seed, instead of a crop of grain. 7. The art of breeding the best animals and the best vegetables, by a judicious

selection of individuals to propagate from. These improvements, with others too numerous to be here specified, have rendered the agriculture of the present period very different from that of the middle ages, when it had sunk far below the degree of perfection which it had reached among the Romans.

Farmers must have their Wheat more completely Ground.

[FROM THE MAINE FARMER.]

Mr. Holmes: For the purpose of shewing the fact of what our wheat was capable of doing when well floured or ground, a very considerable premium was offered by the Kennebec Co. Ag. Society, to be awarded to the manufacturer of the best barrel of flour ground at any mill within the county of Kennebec. At the late Cattle Show and Fair, Mr. John Stanley, of Winthrop, made an entry, claiming the premium for a barrel which was ground by him at the mill in Winthrop village. When wheat was one dollar per bushel, it was good business to grind it for a sixteenth, but wheat has risen to nearly two dollars per bushel; farmers therefore ought to have their wheat ground as well again as it was then, for they pay as much again—that is the sixteenth that they now give is worth as much again when put into the market. I am sensible that they do not get their grinding done any better, if they do as well as they did when wheat was only one dollar per bushel. If that is a fact, then you in reality pay as much again, or double what it is worth to get your wheat ground. Are you contented to pay as much again as you ought for flouring? Let us hear what the adjudging committee say about the barrel of flour manufactured by Mr. Stanley. "Only one entry was made, and that by Mr. John Stanley, of Winthop. We were informed that it was made from five bushels of Tea wheat, strict measure, from which was manufactured *two hundred thirty-two and a half pounds of excellent flour;* which is one barrel, thirty-six and a half pounds." Now there must have been more or less coarse, which would not answer to go into that barrel of excellent flour—and there must have been also bran or canal, or whatever it is called, which is eatable by man or beast.

We state the account thus—

One bbl. excellent floor, worth	$10 00
Thirty-six and a half pounds, at the same	1 84
Say 20 lbs. of coarse, at $8 per bbl.	81
Bran or canal, probably 40 lbs., worth say $5 per bbl.	1 02
And the coarsest bran which is worth the grinding, or nearly so,	
	$13 67

Now see what your wheat is worth when a premium of $5,00 is offered for flouring.

The committee farther remark, "a good specimen of what the farmers of our State can do, and your committee are of opinion that the time is not far distant, if not already come, when we shall not be under the necessity of going to New York to mill." What more is wanting but more and better grinding? A FLOUR-EATER.

P. S. If you will divide $13,67 by five, it will shew the worth of that wheat—and it will be found to be $2.73 per bushel.

Silk Intelligence.

[FROM THE SILK CULTURIST.]

The writer of the following article is a zealous practiaal operator in the department of industry which he advocates, and for eleven years past has labored in bringing the culture of the silk worm to a correct system, by which it can be made profitable and of practical utility.

His pamphlet treatise on the culture of the Silk Worm, may be depended upon as the safest and best manuel for the successful prosecution of the work. He is now on a mission to Harrisburg for the purpose of stimulating the members of the legislature to the good work of giving an impulse to this new and valuable national staple industry. As a proof that his exertions are not mearly theoretical, Mr. Strong carries with him the produce of his labors, in pieces of silk and handkerchiefs, of a beautiful quality and finish, not often exceeded by the manufactories of Europe, one of which he has presented to us as a specimen of his workmanship.—*Saturday Evening Post.*

Mr. Atkinson,—Sir, having been engaged for many years past in cultivating and experimenting on the silk worms, a short history of of my success will perhaps be gratifying to your readers especially those who are now engaged, and who are about to engage in the growing of them. The worms from which the white silk is obtained, are the ones which have been my particular care. They are vigorous and healthy, their silk of an excellent quality, and produce as much, if not more silk from a pound of cocoons, as any other species. I lost most of my worms at first, but few of late, and verry little sickness among them. Select the best cocoons from year to year, for the seed, and you will grow the worm without any sickness, and they will spin firm and solid balls.

Mr. Terhoven and myself last year raised about 100,000, perfectly healthy, and their balls were of the first quality.

The whole art in raising the worms consists in keeping them clean, well fed, and aired. The neglect of either may produce sickness. I speak of worms hatched from good eggs. If the eggs are from sickly worms, your labor will be in vain.—They will sicken with all your care and attention. The trouble and difficulty heretofore, in raising the worms, and the various kind of diseases attending their growth have induced a belief among some of our fellow citizens that it is an unhealthy employment. From long experience, I can say, that there is no cause of such fear. It is a healthy business, and with good seed and proper care, no sickness can be detected among them. Others contend that it will be no benefit to the public, but will only create monopoly.

By whatever means the taxes can be diminished, so much benefit will be derived the State. A large portion of the people are poor, and depend on their daily labor for the support of themselves and families. Agricultural pursuits seem best adapted to equalize wealth, and distribute labor among the people.

Pauperism in agricultural districts, is far less than in towns and cities. The growing of the silk worms is of short duration, and takes

place in the season in which the farmer hat least to do. The old and young of his family can be employed in gathering leaves, feeding and cleaning the worms, while he can assist, should necessity require, in the more laborious part. Thousands of persons, many of whom would otherwise be supported out of the funds derived from taxation, can be employed in this way. The labor ends not with the death of the worm. He having passed through the different ages, *enshrouds* himself in a silken ball, which he leaves as a legacy to the cultivator. To reel these, requires time and labor. The old, young, and decrepid are the ones to perform the task. The legislature, by giving encouragement to the Farmer to grow the tree, would diminish pauperism, do away with our poor-tax, and bring peace and comfort to many who are now suffering for want of employ.

The poor in our alms-houses can raise the tree, grow the worm, reel and twist the silk, and prepare it for market, which will relieve in a great measure, the onerous taxes which the people are now obliged to pay for their support.

If the Legislature would give a premium on cocoons raised in the State for a few years, the farmers would cultivate the mulberry tree, and the people would raise the worm, and in a short time it would be a source of immense wealth to the State.

The advantage to the people will be great. Parents can bring up and educate their children, without putting them in factories, where their morals become corrupt and intemperance brings them to an untimely grave.

The introduction of this new kind of industry, will give employ to families who are now so poorly paid that their weekly labor will not support them.

The culture of silk must and will be done principally by children, paupers, and aged persons.—When we read of the daughters of kings and emperers spending their time in feeding the worms, and reeling their silk, we hesitate not to say that the American fair will not withhold their aid in support of that kind of industry which will place them on an equal footing with their would-be superior man.

There is little or no trouble attending the raising a few pounds of cocoons in families; but great care and attention must be given when they are raised in large quantities, and oftentimes a difficulty in obtainiug food for them in their last stage, owing to rainy and damp weather—of course, their cocoons will be of little or no value, which is sufficient proof against any thing like monopoly.

J. STONG.

"*Near Augusta, Geo. Jan.* 8, 1838.

"I am much pleased to see that you take so lively an interest in the cultivation of the silk-worm, because I have no doubt, nor have I had for the last fifteen years, that silk would become a great staple of our country. The cotton planters of the South, so long as cotton keeps up to from 8 to 10 cts. per pound, will not embark in an enterprize so new and so little understood by them; but let cotton get so low that the planters will deem it necessary to set their wits to work to find something that will be likely to pay them better, and silk will be the article. I am much gratified that the Morus Multicaulis has found its way into many parts of Georgia. I imported some years since, a few roots of the Morus multicaulis, and have ever since been

offering cuttings gratis. But such is the dislike of our planters to engage in new enterprises, that I have been unable to get them to accept of many. Last spring, I planted 100 cuttings in the mountain regions of Georgia, and at the same time, distributed about as many in the same section, and near by, in Alabama. I have seen them since, and they were most flourishing. I have a plantation in Western Georgia, and expect ere long to domiciliate there for life, and if I inform you in the summer of 1839, that I have an entire suit of silk, the product of my own worms, you need not be surprised, for it is fully my intention. And if I do not manufacture sugar for my own consumption, and some of my neighbors, it will not be for want of trying, if you will send me the best seed.

"I have purchased a few fine cows, free from English blood, that I have no doubt, will be superior to the best that can be purchased in England, for our use or section of country; and my cows will give as much as any of the English cows. They are more hardy, and eat less. I purchased them for 30 and 40 dollars, cow and calf. I have tried our English cattle—so I have our native cattle, and I am decidedly in favor of the native. If I live three or four years, I will tell you something more of our native cattle. Meanwhile, I wish you prosperity and happiness, and am

Your most ob't. servant."

French Substitute for Indigo.

[FROM THE LONDON TIMES.]

Public attention has been latterly attracted in France, by the reported perfection to which the discovery of a substitute for Indigo has been brought, and by the establishment of dye-works on a large scale, for applying the process to the dying of wool and woollen cloths, for which it is more especially suited. This new product is called French blue, *(blue de France,)* and its advantages are thus described:—1st. Its color, in all its shades, is of very superior beauty to any thing yet known. 2d. It is perfectly unchangeable by air, acids, soap, &c. 3d. It never whitens at the seams, like indigo. 4th. It dyes in or penetrates the piece in the most perfect manner, which cannot be done with indigo. 5th. It preserves the quality of the cloth with all its softness and suppleness, without in any way altering the texture or nap. 6th. It facilitates the reproduction of the same shades, which is so difficult with indigo. 7th. Its results in the execution are so sure, that an exact estimate may be made beforehand of the expense and product. 8th. It offers a very considerable saving upon the value of the raw material (prussiate of potash,) which is an indigenous product of moderate price, susceptible of a reduction to a value still less, and by which, according to the quality of the cloth, it may be dyed at from 25 to 50 per cent. less than from indigo. 9th. It is said to be of great advantage for furniture, carriage, and livery cloths, and for tartans, merinos, cachemires, &c., on account of the superior clearness and lustre of its colors. 10th. It produces an economy of 12 to 15 per ct. in the manufacture of the cloth, by the solid application of the coloring matter in piece, which has only been effected till now in black and scarlet. Such are the large results promised by this discovery, which appears to be looked upon by the parties originating it, as well as by

several of the first woollen manufacturers of France, as likely to render France independent of foreign countries for the supply of indigo, of which she now consumes to the amount of 20,000,000 francs per annum.

New Manure.

FROM THE MARK LANE EXPRESS.

I notice in your valuable paper of the 5th inst. you allude to the unquestionable and eminent chemist, Lavosier, as to the example in cultivating lands on chemical principles. I have had ocular demonstration of the fact, both in France and England; and am sorry the limit of time prevents me giving you a more lengthened account, which I shall have pleasure in doing in a short period; and I beg to state, from the knowledge I obtained in France, and regular correspondence since I left that country, added to which the successful experiments that have been followed in England, it will not be difficult to prove that on land managed with chemical compost, we should ultimately produce one sixth more grain and seeds than we do at this time, without any additional expense to the farmer. Referring you to the annexed,

I remain, Sir, your obedient servant,

J. H. SHEPPARD.

Unslet, June 15, 1837.

Important to Farmers.

Patent animalized black, which has proved so effectual in all parts of France, were adopted, for upwards of eighteen months back, possesses the following advantages over bone manure:—

Firstly. It is applicable to the strongest as well as the lightest soils.

Secondly. One ton is equal to thirty tons of common fold yard manure; can be drilled with the present drills as used for corn or seed; or applied as a top-dressing, immediately after the plant appears above ground.

Thirdly. The proportion is as half a ton English per hector French, being equal to about two acres two roods English land measure.

Fourthly. Insects do not lodge in the carbonized substances, the animalized black being nothing else.

Fifthly. To use half animalized black, and half boiled bone dust, is a certain preventive against insects.

Lastly. Five cwt. of animalized black costs no more than the same weight of bone-dust, but produces much greater *effect*, in point of produce on all soils.

N. B.—It is necessary to state, to prevent misunderstanding, this is a different manure to what is selling for animalized carbon, as a sample of the latter was taken by the writer from a sea-port in England, and given to one of the first French chemists to analyze, who pronounced it not to have a particle of carbon in it, observing, at the same time, it possessed qualities superior to bones, as the latter he called the refuse of the animal.

The Economy of Manure.

[FROM THE CHESTER GAZETTE.]

Not any thing connected with agriculture is so material to production as the economy of manure; and in proportion to the quantity and quality of this necessary article, or the returns obtained from the land in all situations. The loss of the stimulating properties in dung by the present careless process, is estimated at from one half to two-thirds of what manure should possess when put on the land.

This art is almost coeval with man—is practised in every situation —and in all countries where the inhabitants are numerous, it is not only most important, but indispensably necessary for their subsistence; and yet, even in Britain, it is the only process, notwithstanding that other branches of husbandry are prosecuted, perhaps with more skill than elsewhere in any instance.

There is not any profession that affords more opportunity to experiment on a limited scale, without risk or loss than farming; and yet, there is none where so much opposition is experienced to whatever deviates from ancient custom. But a few years ago, old meadow was considered most valuable, and was preserved and handed down from one generation to another as an heir loom, but this is now believed in most situations to be injudicious; and it is as usual to break up, and occasionally to bring such lands under a regular routine of crops. Draining must necessarily have been practised at a very early period, but the immsnse utility of this was not generally known, nor was it extensively adopted with effect, until within the last twenty years.— We need not therefore be surprised at the difficulties in the way of introducing a better system in the preparation of manure, as the waste occasioned by the escape of the stimulating gases that are in dung, are not immediately perceptible, and even rain mixing with the more soluble parts of the dung, and washing away a very great proportion, is not so much noticed as defective crops from neglect in the mechanical operation in tillage.

Every reflecting and intelligent individual must admit the waste occasioned by the mixture and escape of dung with rain water; but were the farmer told that there is more virtue in what is lost in this manner, than in all the straw that can be used, he would not credit the fact. The evil in this case is not sufficiently apparent to induce occasional attempts to collect these washings from the dung heap, and to apply them separately to the lands; but the only means to avert and strike at the root of the evil, is to exclude air and excess of moisture.

The collection and preservation of manure is unquestionably the chief excellence of Belgian farming, and the subject on which we may derive most instruction from attending to these practices. When they have the means of procuring distillery refuse, or any other liquid manure, they form small tanks for receiving it. These are all built of brick four or six together, about seven feet deep, and each division from six to ten feet long, and six or seven feet wide; when empty, they are neatly washed inside. All sorts of liquid manures are conveyed from the large towns by the rivers and canals to a considerable distance, and bring a large price. They are bestowed chiefly on the young brairds, or as it is expressed, "the whole spring they are con-

stantly watering their braird with liquid manure, driving carts with barrels across their fields in every direction, and showering upon their young crops," that is, if they have a sufficient quantity of it, they go over all their own crops repeatedly with it during spring. The effect of this must be very beneficial, but the farmer must and ought to depend principally on the produce of his own farm yard for his manure, and it is here that the Belgian system is so admirable. The dung-pit should be excavated to the depth of six or eight feet, and be twelve or fourteen feet wide, and into it may be cast every sort of stuff, sweepings of roads, parings of ditches or banks, and dry earth. These being completely saturated with urine, and mixed with droppings from the cattle, form admirable manure. Not being exposed like an English straw yard to wind or rain, little or nothing is evaporated or lost. There can be no question about the propriety of the sheltering manure necessarily produced in a farm yard, from the effects of the weather, whether it be sun, or wind, or rain.

October 24. ST. ASAPHENSIS.

Sheep Shearing.

[FROM THE FARMER'S REGISTER.]

As the month of May is the time for shearing sheep in our climate, I will venture to give a little advice to those who are unacquainted with the best mode of shearing sheep. The proper way is never to tie the sheep to be sheared. It only makes them struggle the more, for the tying gives them pain, and of course, they will struggle to get rid of it. Instead of tying the sheep, place him on the bench, or table, (which should be as high as a tall man's knees,) right upon his butt, and raise his feet a little, so as not to touch the table, or bench; and as he will have nothing to kick against, he will make no resistance, but lie perfectly quiet. Then let him lean upon your breast, with his feet from you, and a little elevated, so that his feet cannot touch any thing, not even your clothes, for if you give him hold of any thing with his feet, he will kick and struggle. After leaning him against your breast, (as mentioned before) put his head under your left arm, and you have entire command of him. Then begin to shear the neck, and you have entire command of him. Then begin to shear the neck, near the head, and shear from the fore, or under part of the neck, round to the back bone of the neck, in half circles, until you reach the fore legs; continue round the fore legs, always shearing in half circles, from the front round to the back bone, also, from the middle, or front of the belly in the same way, in half circles, round to the back bone, until you reach the tail, which will be exactly half the sheep. Then shift the sheep around, still keeping him on his butt, and his feet from touching any thing, which would cause him to kick and struggle. With his head under your left arm, begin again to shear at the neck, near the head, as before, by shearing from the back bone of the neck, this time in half circles to the front of the neck, where you begun at, so as to meet up, and make entire circles around the neck, with the first half circles already done; and so on, from the back bone to the belly, making circles around the whole body, legs and all, until you reach the tail, when the operation is done. And the sheep will be sheared in circles all around the body, and if fat,

will look very well, instead of looking very ugly, as they generally do, in the common mode of shearing.

This mode of shearing saves the time of tying, avoids the pain caused by it; and you are much less apt to cut the sheep, and the sheep looks much better after shearing than in the old way; besides which, you get the wool off sooner, and in better order; for the fleece all falls off in an entire sheet together, and not in detached pieces; and it enables you to roll up each fleece in a snug bundle to itself.

I think a man may shear one-third more sheep per day, in this way, than in the old fashioned way. My hands frequently shear fifteen or twenty sheep per day, in this way, and formerly, in the old way of tying, they never exceeded twelve sheep per day, to the hand. Wilson, an Englishman, who taught my men to shear, could shear thirty sheep per day, and used to tell of their shearing forty and fifty, in England, to the hand, per day, in this way; and some very expert shearers, far exceeding that.

From the difficulty of explaining this mode of shearing, I have made use of a great deal of tautology, but I could not well explain myself without.

HILL CARTER.

Culture of Celery.

[FROM THE GENESEE FARMER.]

Friend Tucker—In forwarding you the amount of subscription for the next volume of your valuable paper, I will fill up at least a part of the blank paper, with some remarks that may be of use to your numerous readers. I shall, of course, leave it entirely to your discretion, whether the scraps I forward you, be worthy of publication, or not. There are many useful plants, which are easy of cultivation, and which would add greatly to the health, variety and economy of the table, if they were more generally introduced into our gardens.—Among the great variety of edible vegetables, those which can be rendered available for winter use, are of the first importance, as that class is comparatively small, and vegetables scarce in the winter season. Many of these are neglected, for want of knowledge how to raise, preserve and prepare them for use. Celery is a plant as easily raised as cabbage, and as easily preserved, and may be used as a most excellent sallad through the whole winter; yet how few are there who raise it, or at all know its good qualities? Some years ago, I became theoretically acquainted with the character and culture of this plant; but such were the seeming difficulties, that I had not the courage to undertake its culture. More subsequently, I made the attempt, and succeeded very well in raising it; but lost all my labor by not knowing how to preserve it. I adopted Cobbett's plan of placing two boards in a roof-like position on the top of the ridge; but when I came to take my plants, they were all rotten. This failure caused me to abandon raising the plant for several years; but being fond of the vegetable, I again attempted its culture, and took the most simple plan for its preservation, and succeeded to my entire satisfaction. Since then, I raise it every year, and have it on the table every day through the whole winter. I will now proceed to give a detail of my mode of raising it. I sow the seed in a warm situation on the first of April—

a few seeds will suffice, as 100 plants will make a plenty for a common family. In the latter part of June, or first day of July, the plants must be set out; let the ground be prepared as follows: for 100 plants, dig a trench 50 feet in length, and 10 inches deep—the width of the spade is sufficient. In this trench put 2 inches of well rotted manure, or rich vegetable mold, into which set the plants 6 inches apart, and immediately after setting, water them, If the plants are covered by laying boards lengthwise over the trench, for two or three days, and watered each day, it will greatly facilitate their striking root, and insure their growth. As the plants grow, gradually fill up the trench, and continue to earth them up every two weeks till fall, taking care not to cover the top bud. By thus earthing up a ridge of some 2 feet or 18 inches will be raised at the end of the season. About the time of securing cabbage, Celery must also be secured. I choose a time when the ground is wet, and begin at one end of the ridge, and clearing away the earth, dig them carefully up by the roots, with as much dirt as will adhere to them, and pack them away in the cellar, placing them in a standing position, with the roots compactly pressed together. Here they will keep without any further attention; and are at all times handy for use. If any admirers of this plant should be so unfortunate as not to have a cellar, I presume if the plants should be taken up as described, and packed in the same manner, they might be successfully preserved by covering with dirt, in the same way that farmers cover their potatoes or turnips.

Onions.

[FROM THE FARMER'S CABINET.]

On reading an article in the Cabinet of March 15th, 1837, upon the culture of Onions in Wethersfield, I concluded to try the experiment of raising them on Delaware soil.

I dressed an eighth of an acre with four cart loads of well rotted stable manure, being part of a parsnip lot planted last year, for spring feeding of milch cows. After the manure was very evenly spread over the greund, it was ploughed in ridges, and planted with nine ounces of seed.

I did not pursue the Wethersfield plan of sowing the seed in rows, but put them in hills; supposing it would take less seed, less work, and produce equally as good a crop. The instrument to plant them was made in the following manner: A lath about four feet long, with four holes bored through it with an inch auger, ten inches apart, which were filled with pegs that projected through the lath about one and a quarter inches; then a handle of three feet long was put in the centre of the lath to carry it by; this instrument was then laid across the bed, which by stepping on it with one foot on each side of the handle, four holes were made ten inches asunder; then moving it about a foot, and repeating the operation, the bed was soon filled with holes ten inches one way, and about a foot the other. A few seeds were then dropped in each hole, the beds raked and rolled, which finished the operation of planting.

As soon as the young plants began to appear, the beds were raked between the hills with a small rake made of tenpenny nails, which retarded the growth of the weeds, and caused the young onions to

advance in size and strength before the time of weeding and dressing them with a hoe had arrived. I regard this little operation of early raking the beds quite an improvement: for part of the ground was not managed in this way, and the process of weeding was much more difficult; besides, in extracting the weeds, many of the young onions would fall down, and some of them were pulled up in consequence of the weeds having acquired a growth equal to the onions.

They were dressed several times through the season by pulling the weeds and using the rake and the hoe. The work being done at intervals, and merely by children, no very accurate account was kept of the labor, but it did not exceed ten days work for a full hand. They grew very large, some of them measuring thirteen and a half inches in circumference, and many of the hills had three or four clustered together; they are excellent for the table, fine flavored, with none of that rank, strong taste, so common to onions raised from sets. One of the beds was measured, by which the average produce was over 50 bushels on the whole ground, which would exceed four hundred bushels to the acre.

Although the produce equalled Wethersfield in amount, I was somewhat disappointed on finding several bushels of them not of a merchantable kind; they had thick necks, sort of evergreens; they would neither die nor dry, commonly called scullions, by gardeners.

I see it stated, I think in the American Gardener, that no crop is more difficult to accommodate, with a suitable soil, than the onion, in consequence of its disposition to behave in the manner I have stated. The ground this experiment was tried upon, is rather a stiff clay, but very much softened with lime and manure, yet I presume it is not exactly the kind of soil they like. I intend, next season, to select a more sandy location, for I am rather pleased with the partial success of the operation.

The onion does not seem to want as much manure as other root crops, particularly the potato and ruta baga turnip; they require, it is true, considerably more labor, but the value of the crop would, upon an average, be double, and more, if the difficulty I have mentioned, could be surmounted.

I suppose that two and a half or three acres of onions could be raised by hiring one additional hand through the summer season; besides, it is sometimes profitable to increase the varieties of labor on a farm, when workmen are employed to perform it. In mowing time and harvest, we frequently have spells of wet damp weather, and a field of roots not only gives employment to all hands during such intervals, but pays the expense of an additional hand through the summer, by which the severe operation of gathering hay and grain is very much reduced.

Raising Clover Seed.

[FROM THE GENESEE FARMER.]

In raising Clover for seed, in order to procure a good crop, it is first requisite that the land be fertile: that it be well prepared before sowing; and that a sufficient quantity be sown to yield a full and even crop.

The second and most difficult object to attain, is to secure the crop when ripe, so as to save the largest portion possible of the seed. To do this, it must be cut at a proper season. As the seed ripen at different periods, if the crop is cut too soon, there will be a loss sustained from the immaturity of the seed. If cut too late, those seed first ripe will be liable to be entirely lost by being shattered off in the field. Hence there is a certain medium to be observed, to prevent these two evils, which is, to cut the crop when about two thirds of the heads have become black; a large portion of the remainder will ripen by the nourishment they obtain from the straw during the drying process. Where the clover is not lodged, it is much the best to cut it with a cradle, laying all of it in double swaths; and securing the heads from falling through the fingers of the cradle by stitching a piece of linen cloth upon them.

After the crop is cut, it must be suffered to remain in the field long enough to become dry; this, if the weather is good, will be in a very few days. It must then, when the dew is upon it, be raked into small bunches, (such as would be a convenient load for a fork,) and when sufficiently dry, placed carefully upon a sled or wagon, and drawn into the barn. If the weather is unfavorable, it becomes necessary to turn these bunches repeatedly, to prevent their being injured by the moisture. Indeed, this should be done even in fair weather, if they remain out longer than two or three days. When drawn into the barn, the crop may be either stowed away in mows, or else thrashed out immediately, and the heads and chaff placed in a room for the purpose, for ultimate cleaning. This may most generally be done best in winter.

If farmers could always raise their own seed, and in sufficient abundance, it would be much better to sow it in the chaff, as it is generally found to be more certain to grow. The only advantages of cleaning are, the more exact determination of the *quantity* to be sown, and the more equal distribution of the seed; and where it is raised for sale cleaning is of course requisite. When sown in chaff, the difficulty with regard to quantity and distribution may be obviated by sowing sufficient to insure the desired thickness on every part of the ground.

By far the best method of cleaning is by means of a machine; but as this is not always to be had, the practice of treading it out by horses is then to be resorted to though it is tedious and unpleasant. It is thus performed. The barn floor is covered with chaff about a foot in thickness, and the horses are driven upon it one day. The next morning it is to be passed through a fanning mill, and the chaff and dust which has been beaten off will be blown away; the clean seed will pass through the screen; while a third and larger portion, containing the seed yet in the chaff, will drop in the rear of the fanning mill. This is to be spread a second time upon the floor, mixed with a fresh portion of unseparated chaff, and again trodden by the horses; the second morning repeat the same operation, and a much larger portion of clean seed will be obtained. The operation is thus to be repeated until the whole of the chaff is separated.

In order to clean the seed properly for market, it is necessary first to run it through a sieve of just such a degree of fineness as to permit the clover seed to pass through, but retain all large substances. It must then be passed through a sieve just fine enough to retain the

clover seed, but to suffer all smaller seeds to pass through. In this way it is effectually cleaned.

By proper attention and care, three or four bushels may be easily obtained from an acre of land.

J. J. T.

Marl of South-Carolina.

[FROM THE FARMER'S REGISTER.]

Washington City, Jan. 24th, 1838.

Dear Sir—I take a moment, in the House, to drop you a line on a subject on which we conversed somewhat when I had the pleasure to meet you here, to wit, the marl formations or deposites in South-Carolina.

There is a region commencing about forty miles below Columbia, and running parallel to the coast, in which is embedded much of a material which I have always believed to be marl. A friend has sent me a small specimen in this letter, and shall send a larger one by some other conveyance.

This specimen, is taken, I think, from the banks of the Congaree, or rather the Santee, about seventy miles below Columbia. For forty or fifty miles, the banks of the Wateree abound with this material. It is burned into lime, and used for all the purposes of laying bricks pointing and plastering. It has not yet been applied, that I can learn, to agricultural purposes.

If you will do me the favor to let me know what is the quality of this marl, and what soils it should be applied to, and in what quantities, I will be greatly obliged to you.

Your obt. servant.

F. H. ELMORE.

Of South-Carolina.

[We have had not more leisure than would suffice for a very slight and incomplete chemical examination of the earth sent in the letter above; but that examination was enough to prove that it was a very rich marl. A more accurate analysis will be made, and the result reported in the next number. But we can undertake now to say, that this extensive deposite, as means of improving the lands of South-Carolina, will be of incalculable value.

We had not entertained a doubt but that the same calcareous formation which lies under the tide water region of Maryland, Virginia and North-Carolina, extended also under the same region in South-Carolina. This might be safely inferred from the similar geological features, in other respects, of the whole of this great region. But we had never heard, until lately, of the actual position, or even existence there of any marl visible or accessible; and we believe that it is certain that not the least use has yet been made of calcareous manures in South-Carolina—though it as much wanting there, and would yield as great profits, as any where else.

It is a matter of additional gratification to us, personally, that our inquiries and suggestions on this subject have not been without effect, in inducing our correspondent to direct his mind to this subject. His native state posseses in these beds of calcareous manure, an unwrought

mine of wealth that will yet be far more productive, and a thousand fold more valuable, than all the gold mines in our whole country.

And yet on rejoicing in the knowledge of these facts and the anticipation of their future results, are accompanied by some bitter feeling of mortification. We have been laboring, for many years, in practical agriculture, and by writing and publishing, to induce our countrymen to use this most cheap and efficient of all manures; and though we have had many subscribers and readers among the intelligent planters of South-Carolina, to this day, all our urgent advice and instruction have not served to induce a single cultivator to marl even so much as an acre of land. Truly, we have but small encouragement to persevere in offering them advice and instruction.—*Ed. Far. Reg.*]

To Harvest Beans.

[FROM THE CULTIVATOR.]

Lake County, Ia., 9th Oct. 1837.

The following easy and simple method of saving a crop of Beans, is worth the price of ten years subscription to the Cultivator, to every person that never practised it, who wishes to cultivate that valuable crop. By this method, beans may be planted in a field by themselves, may be pulled while the vines are entirely green; and will be perfectly cured, no matter how wet the weather; and what is more, need not be housed or thrashed until such time as may be convenient.—This is the plan.

To cure Beans.

Take poles or stakes (common fence stakes) into your bean field, and set them stiff in the ground, at convenient distances apart, which experience will soon show you, and put a few sticks or stones around for a bottom, and then, as you pull an armfull, take them to the stakes, and lay them around, *the roots always to the stake*, as high as you can reach, and tie the top course with a string, or a little straw, to prevent them from being blown off, and you never will complain again, "that you cannot raise beans, because they are so troublesome to save." They are the easiest crop ever raised, to take care of.—Try it, and you will then know it, and thank me for telling you of it.

Your friend,

SOLON ROBINSON.

Notices of Culinary Vegetables, now or recently introduced, worthy of general cultivation in private Gardens, or for the Market. By the Editor.

[FROM THE MAGAZINE OF HORTICULTURE.]

We continue to offer such information to our readers, as we have been enabled to gather together, both as respects the cultivation and trial of new varieties of vegetables in this country, as well as those that are reported abroad, to possess extraordinary merits. New varieties of superior vegetables are not rapidly produced, and after they are once introduced into cultivation, it is long before they become generally grown, and properly appreciated. Probably if as much

attention had been given to the hybridization of vegetables, as has been bestowed upon fruits, the varieties would have been more numerous than they now are, and their qualities far better; the method seems, however, to have been but little practised in the culinary department. As the taste for superior articles becomes more extended, the demand will be greater, and gradually, the old kinds will be discarded for new ones; finally, the desire for still more excellent specimens, will induce cultivators to make more frequent attempts to procure something new; the result will consequently be, as it has been in other departments of gardening, the production of a race of new varieties, far better than those previously known.

We are glad to notice, in the various exhibitions of the past year, which have taken place throughout the country, an account of nearly all of which will be found at the close of the third volume, and in the commencement of this, that the cultivation of vegetables is attracting the attention of the respective societies before which they were exhibited. Liberal premiums have been awarded for the most excellent and best grown specimens, and the articles exhibited have been of much finer quality than those heretofore grown. These have, indeed, in many instances, been the produce of the gardens of private gentlemen and amateurs, though, in some instances, of regular market gardeners. It is with the gentleman and the amateur, however, that reform in cultivation must begin: the market gardener will generally be the last to adopt any new mode in growing a vegetable, or to make a trial of a new variety: when he sees that gentlemen are producing for their tables a much better article than his own, and thus, through a circle of acquaintances, preparing the public to better appreciate what is superior, he will be induced to make some effort to supply himself with the best; but not till then will he, in scarcely a single instance, be persuaded that it is for his interest, as well as for the benefit of the public, to cultivate new and superior varieties.

We have introduced this article for the purpose of making better known new varieties, with the hope that cultivators, particularly market gardeners, may see what there is, that is new, and what has been proved to be worthy of general growth, to the exclusion of old kinds. We shall endeavor to introduce, annually, the names of all that may be reported to possess excellent merits; and those that we know, from experience, or from the advice of friends, on whom we can rely, to be first rate, we shall make no hesitation in so recommending. Those which may be merely mentioned one season, will the next, if they have been tried, be noticed at length, and their qualities commented upon.

The past year there has not been many new varieties of vegetables introduced, and but few, if any, originated in this country. Our notices now will therefore be not very extended, particularly as our remarks last year were made at length, and embraced about all the kinds that were then known. We shall take the articles in an alphabetical order, so that they may be more easy to refer to.

Beans.—We do not know of any remarkable new sorts; nothing certainly, among the running kinds, which will equal the Lima; but as this variety scarcely attains, in the latitude of Boston, to an eating state, unless forced, a substitute is much sought after. The only new kind which comes any where near it in quality, is the Soissons bean. We named this last season, and we only mention it now to add, that the past summer we had an abundance of fine pods as early as Au-

gust, while the Limas, which stood close by the side of them, did not produce a pod fit for shelling until the latter part of September. Its quality is excellent, and it is fast coming into cultivation. They are also stated to be very superior to boil when dry.

The prolific Lima Bean.—This is said to be very inferior, possessing little or no merit.

Brocoli.—This very fine vegetable has been cultivated considerably the past season, and some monstrous sized ones have been raised.—During the winter, nearly up to this time, as will be seen by our reports, the market has been tolerably supplied. The purple cape has been the principal sort cultivated, and it is an excellent kind; but we find the following names of new varieties in an English catalogue for this year: *Summer's superb white*, *Howden's superb purple*, and the *new Imperial winter*. We know nothing of their qualities, but presume they are good. No doubt the seed will be introduced by Messrs. Hovey & Co., or other seedsmen, and a trial made of their merits, of which we shall inform our readers.

Cabbages.—We have little to note respecting the trial of any new kinds, besides the continued cultivation of the Vanack, which has given very general satisfaction to all market gardeners who have grown it. We mentioned some new sorts, which were recommended last year, as being superior, but we have no information respecting their real merits. The following are the names of other new varieties, which appear in the catalogues for 1837 and 1838, viz. *new early Nonpareil*, and *early new Waterloo*. We hope the seed will be introduced, and their qualities tested, before the return of another year.

Cauliflower.—Gradually, upon the increase in cultivation, this most excellent vegetable will, before a long time, be generally sought after in the market. Fine heads have been supplied the past fall, and during the winter, up to this time, and they are now to be found throughout nearly the whole season. The common early and late varieties have been exclusively cultivated. We would now notice the *new early German*, a variety advertised in the English catalogues. If early, and at the same time of good size, it will be a fine acquisition to the culinary department.

Celery.—It is with great pleasure and satisfaction that we are enabled to inform our readers of the ready sale of the new *giant* celeries. Nothing can better display, at once, the prejudice which many market gardeners labor under than the mere relation of a fact which occurred the past season. In 1836, some tolerable (by no means fine) specimens of the giant celeries were first introduced to the market. The varieties were thought, by those who were more particular in their purchases of this excellent vegetable, to have the appearance of coarseness, so different were they from the old pipy kinds in general growth. But, by request, some individuals were induced to make a trial of a few roots; the result was highly favorable; they were not only pronounced better than the old sorts, but so very superior, that those who had eaten them came at once to the conclusion, never, if the giant celery could be had, to purchase the common varieties. From this fact, the beautiful appearance and the very ready sale of the giant sorts, a dealer endeavored to persuade an old market gardener to raise him a large quantity of the giant, stating to him that he had no hesitation in saying, that it would sell more readily, and at a higher rate than the old kinds. But his persuasions had no effect whatever; he was sure of disposing of all he could raise of the old varieties, and he

might not be enabled to sell perhaps a root of the new sorts; he preferred to go on in his old track. But so certain was the dealer that the giant varieties would sell, to the almost total exclusion of the common, that he agreed with the raiser, if he would undertake it, to guarantee him any loss on his part. On these terms alone, he set to work, to grow a large quantity. We need scarcely mention, that it is eagerly sought after, sells rapidly at a considerable advance on the common kinds, and is preferred by all who have given it a trial.—These two varieties are *Bailey's red* and *white Giant.*

In addition to these, we mention the following as for sale by the English seedsmen:—*Large Russian Pink*, and *Law's Giant white.* When we have any correct information of their merits, from our own experience, or from that of our friends, we shall present it to our readers.

Cucumber.—Excepting varieties for forcing, we believe there is nothing particularly new. For the former object, there has been some new varieties originated, and some that have been made trial of, have been incidentally noticed by us in our third volume.

Walker's long green.—A most excellent variety, growing from eighteen to twenty-six inches in length, and possessing all the good properties of a cucumber. For forcing, it is well known. We notice it now more particularly, to state that we raised some fine specimens in the open ground last summer, in a warm and somewhat sheltered situation. No other than ordinary care was bestowed upon them; but the vines, when cut down by the early frost of October, were crowded with young fruit, in all stages of growth.

Among some new varieties, which we have seen enumerated, we notice the *Sion house*, *Spink's long frame*, and *new large Prizefighter.*

Davenport's recent experiments in Electro-magnetic Machinery.

[FROM SILLIMAN'S JOURNAL]

(Copy of a letter from Mr. DAVENPORT.)

To Professor Silliman.

Dear Sir—Having lately made a number of applications of the power of *large galvanic magnets* in propelling machinery, (being independent of the large machine now constructing by the association.*) I thought proper to state to you the results, believing they would not be uninteresting to you.

I have constructed a machine, with two revolving magnets, two feet in length, made of iron three and a half inches in diameter, and weighing, after being wound with six coils of No. 10 copper wire, one hundred pounds each. Three stationary magnets of two feet diameter, were placed around the periphery making six poles, and weighing one hundred pounds each.

With this machine I produced one hundred revolutions per minute, with six square feet of sheet zinc exposed to action, surrounded with thin sheet copper.

* The machine alluded to in the above letter, as now being constructed for the Electro-Magnetic association, by Messrs. Davenport & Cook, is nearly completed, and is expected to be of about two tons power. It is formed by a combination of small magnets, weighing about four pounds each, and three and a half inches between the poles. These magnets are placed, two hundred and thirty-four in number, on an iron shaft six feet in length, and a corresponding number in a circle as stationary magnets.

I then displaced the stationary magnets, and substituted one magnet three inches in diameter, forming a semicircle, with the poles directly opposite each other, and weighing one hundred pounds. With this magnet I produced one hundred and fifty revolutions per minute, using the same quantity of zinc surface. With one revolving magnet I produced one hundred and seventy-five revolutions per minute, with four square feet of sheet zinc. I next constructed a *hollow* magnet of two feet in length and four inches in diameter, made of boiler iron, five-sixteenths of an inch in thickness, with four coils of copper wire, with which I succeeded in getting one hundred revolutions per minute. A hollow magnet was then constructed of thin sheet iron, of the thickness of common *stove pipe iron*, which revolved one hundred and fifty times per minute. *Hollow* magnets I think may be used to great advantage where weight is an objection; but in my experiments I generally make use of *solid* iron.

I also constructed a machine with simply two magnets formed of two inch round iron, of fifteen inches in length, of the stirrup form. The distance between the centres of the poles is five inches, and the magnet revolves four hundred and fifty times per minute, with two square feet of zinc. The stationary magnets being placed with the poles pointing upwards, and the poles of the revolving magnet pointing downwards, the shaft to which the revolving magnet is attached passes through its centre, and rests on the centre of the stationary magnet. Two of these machines (weighing in all fifty pounds) I have attached to small drilling-works, which I find produce sufficient power to do all my drilling of iron and steel, to the size of one-fourth of an inch diameter.

I have adopted this form on the third machine which I have recently put in operation. The magnets are formed of two and three-fourth inch iron with the centres of their poles nine inches apart and weighing 50 lbs. each, with this I produced three hundred revolutions per minute, and have successfully attached it to turning hard wood of three inches diameter. I find the power increases in full proportion to the increase of weight and without increasing in proportion the size of the battery. The wire must be increased in size in proportion to the size of the iron used, and consequently the difficulty attending long wires will always be avoided.

I find no difficulty in using my machine *twelve hours in succession*, without changing batteries or agitating solution.

I am erecting conveniences to test the powers of each magnet as they are increased in weight and size, and think I shall be able in season for the April number of your Journal to give the exact increase of power in proportion to weight, of magnets weighing from ten pounds to several tons.

I have also made some very satisfactory trials, while making my machines, respecting the expense for the consumption of zinc and acids, and I think I shall be soon able to give nearly the precise cost of making the largest machinery.

Galvanism is, I trust, destined to produce the greatest results in the most simple form, and I hope not to be considered an enthusiast, when I venture to predict, that soon engines capable of propelling the largest machinery will be produced by the simple action of *two galvanic magnets*, and worked with much less expense than steam.

Yours, respectfully,

THOMAS DAVENPORT.

New York, Dec., 26, 1837.

Coal Ashes as a Manure.

[FROM THE FARMER AND GARDENER.]

We are aware that many persons entertain the belief that *coal ashes* have little or no virtue as manure, and hence it is that but little use is made of them in this country for agricultural purposes; but when it is considered that *coal*, from which they are produced by incineration, (with, perhaps, the exception of *anthracite*, and we have never seen any good reason for the exception) is of vegetable production, we can see no just ground for denying to them the properties of manure. In appearance and smell, they bear a close analogy to wood ashes, and when submitted to the test of the touch when wet, they possess almost an equal degree of causticity; so also when tasted they are nearly as acrid. Coinciding in all these characteristic traits, common sense would say that they cannot be without the possession of those virtues, which render wood ashes a valuable agent in the improvement of soils. If they possessed no other specific virtue, the property they do possess, of warming, loosening and intimately dividing or disintegrating the particles of *tenacious clays* should render them, in the estimation of all judicious farmers, a valuable means of improvement; but their adaptation to the melioration of soils, is not peculiar to that description of lands, as their good effects have been equally visible when applied to sands, loams, and marshy grounds, in Europe, as well as in this country. As top dressings for turnip lands, for meadows, whether situated on elevated or low grounds, their beneficial effects have been universally acknowledged wherever applied. If they be not quite so potent, or durable, in their effects as wood ashes, they have nevertheless proved of immense value wherever used. In England they form a component part of almost every compost, and are often used alone; and whenever there is found amongst them any considerable portion of *unconsumed coal*, to every cart load of such ashes, 3 bushels of *fresh unslacked lime* is added, covering the whole up in a heap for about *twelve* hours, till the lime be entirely slacked, when they are intimately incorporated together, by turning the whole over two or three times, by which means the cinders or unburnt coal will be reduced to as fine a powder as the lime itself. When reduced to this state, they are to be applied as are wood ashes, either by admixing them with the soil, or by top dressing the land with them; a hundred or a hundred and fifty bushels to the acre being a full dose. With rsspect to the *anthracite* coal ashes, we will remark, that the gardens in *Pottsvill*, Pennsylvania, we are assured, bear the strongest and most gratifying evidences of their fertilizing effects, they being there a favorite manure.

We have thus felt it to be our duty to call the attention of agriculturists to these facts, because from the increasing consumption of coal in all our larger cities as fuel, the time is not far distant when they will form a very important means of fertilizing the lands of farmers in their respective vicinities. One of our very best farmers in this neighborhood assured us some months since, that from a trial he had made of them, he was satisfied they were a most excellent and effective manure; that they had greatly improved the texture, and increased the productive ability of the soil on which he had spread them.

PART III.

MISCELLANEOUS INTELLIGENCE.

Culture of Beets in Lombardy.—There have been some remarkable peculiarities in the cultivation of the sugar beets in this country during the three years past. Its light and sandy soil suits them well, if the temperature which undergoes a sudden change on the first rains, do not too long protract the sowing. Excessive droughts are also injurious, causing the portion of the root which is above ground to become green and acrid. Irrigations, so easily made in this country, and so favorable to rice, wheat and corn, injure beets, because they submerge the plants, and prevent the unfolding of the leaves. To remedy these inconveniences, M. Pagen has advised the sowing of the seeds in beds, and then transplanting the roots in raised beds, enriched with good fine manure, immediately after the early rains. The roots will soon strike into this deep soil, and will be less exposed above ground. Water may be conveyed into the furrows between the beds, without any risk of submerging the plants, and the produce will be more certain.

Last year, the temperature and moisture being unusually favorable, beets were sown early, with the drill, and the gathering was abundant. The juice marked 5° on Baume's acrometer, after being clarified. The raw sugar had a more agreeable taste, and the molasses was very sensibly less acrid than similar products in the North of France.

A large portion of land having been covered with the alluvial sands of the Adda, the beets sown upon it were unusually flourishing, but the juice was sulphurous, and furnished but little sugar.—*Bulletin d'Encour. Mai.*

Construction of Ice Houses.—As the present is a suitable season for attention to ice-houses, a few short directions relative to their construction, may not be unacceptable.

The most useful method is to place the apartment for containing the ice, below the surface of the earth. When this is done, the pit should be 8 or 10 feet wide, and about 12 feet long, and should be sunk to a depth of at least 8 feet. Posts, made of 4 inch scantling, are placed round it, at a few inches distance from the walls of the pit: on the opposite sides of these, boards are nailed horizontally, thus leaving a space between the two partitions thus formed, and another between these and the earth around them. These spaces are to be filled with the exhausted bark of tan pits, after it has been made dry. Similar spaces, made beneath the floor, are to be similarly filled. These walls, thus constructed, should project a foot or two above the ground, and should be surmounted by a very steep roof, also made double, the intervals between the boards being filled with powdered charcoal. It is to be painted white outside, to prevent the absorption of the rays of the sun. The steepness, and consequent height, of the roof, affords a convenient passage into the house through a triangular door at one end.

The pit is divided into two apartments by a double partition, filled with tan. One of these, which should be the largest, and most remote from the door, is for the reception of the ice. The other is employed as an entry, at the *bottom* of which is a door made also double and filled with tan, through which the ice is withdrawn as it is needed for use. This entry may be employed for keeping butter, milk, &c., during the heat of summer. The space above the ice is to be filled with dry straw, after the ice is deposited.

It is not essential that the ice house be made beneath the surface of the ground, as many are now constructed entirely above, and answer the purpose perfectly. But in this case the walls of tan should be much thicker.

The ice for filling may be drawn any time during winter, but it should not be deposited except during the coldest weather. It should be cut into regular blocks, and as closely packed as possible, all the instertices being filled with pounded ice. *Maine Farmer.*

Marl.—Marl is often found in flat lands where water stands. Sometimes by the side of rivers, under sand banks. It looks something like clay, but is usually of a lighter color. It has a greasy feel similar to clay, but it is not tenacious, and cannot be made into mortar, as it crumbles like chalk. It has no smell of itself, but it may imbibe an odor from some vegetable or mineral substance. When dry, it tastes much like chalk. Marl is an excellent manure, and it can doubtless be found in many parts of the country where it is not now known. Farmers, attend to this subject, many of you have upon your own farms substances with which you may enrich them, and add greatly to your income. We have seen in many parts of the country, particularly when sand hills have been dug down in making roads, a clayey substance, resembling marl, that may be easily pulverized when dry, which would be a good manure to apply to sandy soils that usually abound in the vicinity.—*Yankee Farmer.*

Cow Tree.—Mr. Lockhart, a celebrated botanist, in a letter from Trinidad, speaks thus of the milk tree in Colombia: "I have just returned from an excursion to Caraccas, where I collected the juice of the cow tree (Palo de Vaca) and I have now the pleasure of sending you a phial of the milk, together with a few leaves, and a portion of the tree. The Palo de Vaca is a tree of large dimensions. The one I procured the juice from, had a trunk of seven feet in diameter, and it was 100 feet from the root to the first branch. The milk was obtained by making a spiral incision in the bark. The milk is used by the inhabitants wherever it is known. I drank a pint of it, without experiencing the least inconvenience. In taste and consistence, it much resembles sweet cream, and possesses an agreeable smell. I was so fortunate as to procure some young trees and roots of the Palo de Vaca, which I will endeavor to increase.

Death in the Grate.—Anthracite coal generates carbonic acid gas,—it throws all the blood in the body up to the head, makes that respectable member of the human frame spin round like a top—produces oppression of the chest, and even when it does not cause such palpable effects, acts slowly but fatally on the vitality of the system. People ought to be very careful in the use of it; the rooms in which it is used ought to be freely ventilated and constantly; or sudden deaths and wasted constitutions will prevail more than ever this winter. Of anthracite fire, more than any other, it may well be said, it is a good ***servant*** but a bad ***master***. With proper precautions it may be safely used, and is undoubtedly the cheapest fuel to be had; but be careful in the use of it.—*Albany Daily Advertiser.*

Legislative Regulation in the Weight of Grain.—A bill of no small interest to ***farmers***, has passed the Assembly of New-Jersey. It establishes the bushel of wheat at 60 pounds; of rye and corn at 56; of buckwheat 50; of barley 48; flax seed 54; and of clover seed 60. Both buyer and seller thus know precisely upon what terms they deal; and uniformity is established. Heretofore the difference in different parts, has been several pounds in the bushel; and every individual buyer had a right to make his own standard.

Egyptian Wheat.—The following paragraph, showing the very curious mode in which this wheat was introduced into the Wisconsin Territory, is taken from the Chicago American of 14th October:

"We have received a specimen of Egyptian wheat, raised this season on Rock River. The seed was taken by our informant from the crop of a bird of passage, and this is the second season in which he has cultivated it. Four or five seeds were all that he put into the ground the first season, and this year he has a garden spot full of it. It has three pronged stems, and is a beautiful and superior production."

To guard against Horse Flies.—In order to prevent horses being teased with flies, take two or three small handfulls of walnut leaves, upon which pour two or three quarts of soft cold water, let it infuse one night, and pour the whole, next morning, into a kettle, and let it boil for a quarter of an hour; when cold, it will be ready for use. Nothing more is required than to moisten a sponge with the liquid, and before the horse goes out of the stable, let those parts which are most irritable be smeared over with the liquor, viz. between and upon the ears, the neck, the flank, &c. Not only the lady or gentleman who rides out for pleasure, will derive benefit from the walnut leaves thus prepared, but the coachman, the wagoner, and all others who use horses during the hot months.

Communicated for the Southern Agriculturist.

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Monthly Calendar of Horticulture, &c.

FOR MAY.

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Cabbages.—It is usual to sow cabbage seeds in this month, for fall and winter use. The large varieties, such as the Battersea, Savoy, Sugar-loaf, Drumhead, and Green Glazed, are generally selected. The last is the only one which deserves much attention at present,—it is a coarse cabbage, and far inferior to those enumerated, but it is the only variety with which we are acquainted, which can withstand the attacks of the green cabbage worm. These depredators so eat the leaves of all the cabbage tribe, that they resemble rather honeycombs than leaves. The Green Glazed cabbage they rarely ever attack, and never so much, as to injure the plant. We would therefore advise that the Green Glazed cabbage seeds alone be now sown, with the intention of setting them out as soon as fit. Seeds of the other varieties may be sown and kept in the seed beds until July and August, and then be transplanted out. Should this plan be pursued, the seeds should be sown on rather *poor* ground, or the plants will grow too vigorously, and be too large to set out. If sown on moderately poor ground, they will grow but slowly, and never attain a *very large* size, but their stems will be very hard, and the cabbage worm will not destroy many of them when transplanted out.

For the reasons assigned above, we also recommend that Green Glazed cabbage plants alone be now set out. Have the ground *highly* manured, and made very fine. Transplant your plants in rows three and a half feet, and three feet in the rows. The ground should be frequently stirred among them, as nothing promotes their growth so much as frequent hoeing or ploughing among them.

Cauliflowers.—This is the best month for sowing seeds for a general crop, though some prefer July, but the plants from that sowing rarely produce large heads. Those sown now will require to be transplanted out once or twice, unless the plan, which we shall presently notice, be followed. We must, however, warn our readers, that there is great risk of losing a number of the plants every time they are transplanted, for they are very tender, and rot off near the ground The reason why they are transplanted frequently, is to prevent their growing too tall, (which they will do) and falling to the ground. The following plan has been adopted in this city with success: The seeds are sown in April and May, and as soon as the plants are large enough, the ground where they are to remain is prepared as if for celery—that is, trenches are made 4 or 5 feet apart; the bottoms of these are highly manured, and well broke up by spading. The young plants are set out in these trenches at a distance of about 4 feet. As they advance in their growth so as to require support, earth is drawn to their stems. In the course of time the bed is again brought to a level, but as the plants continue still to grow, earth is drawn up to and around their stems, as long as they require, so that by winter they appear as if they had been planted on large ridges. They usually head about Christmas, or a little before, and continue to come into use for a month or two. We have never tried this plan, not being made acquainted with it until last win-

ter; but from the uniform success which has attended it, for many years past, we have no hesitation in recommending it. We saw cauliflowers which would measure at least 14 inches diameter, and we did not see the garden until the crop was nearly all used.

Brocoli—Should be sown at the same time, and receive the same treatment, as cauliflowers.

Celery.—Seeds of this vegetable may still be sown—the ground should be made extremely fine, the seeds sown and merely brushed in. The plants, from seeds sown last month, may be pricked out now. For this purpose prepare a piece of ground, as for a seed bed, and transplant on it the young plants, setting them about 3 or 4 inches apart each way: by the time they should be finally transplanted out, you will have fine healthy plants, with good roots, and scarcely one will fail.

Carrots, Beets, Parsnips, Salsafy and Turnips.—Not much is to be expected from the sowing of the seeds of any of these vegetables at this time, but if they have been omitted or have failed, some may now be ventured. The great hindrance to success, is the very hot and dry weather which usually sets in towards the last of this month, and continues through June. If you can get them up, and the season be moist, you may succeed with all except the turnips, which will never grow to any size, and be only fit for soups.

Radishes.—A few radishes may still be planted—let the ground be very rich, and rather inclining to moisture. They should be sown every fortnight to have them good.

Snap Beans.—You may continue to plant bush snap beans—but if you have planted any of the running varieties, this will be unnecessary, as they will succeed those first sown.

Corn.—If desirous of having a succession of young ears of corn for the table more seeds should be now planted.